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Official Gazette

MILESTONE 3,000,000th PATENT EDITION

UNITED STATES PATENT OFFICE

Containing the Patents, Designs, & Trademarks Issued

September 12, 1961 • Volume 770 • Number 2

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OFFICIAL GAZETTE ✦ UNITED STATES PATENT OFFICE

September 12, 1961 Volume 770 Number 2

"The Patent System Added the Fuel of Interest to the Fire of Genius"—Lincoln

THE FIRE STILL BURNS!

This issue marks a milestone in the history of the United States. Published herein is an extract of the 3,000,000th patent. Impressive as this single figure is, what is more significant is the total number of patents.

This total—in the 125 years since the numbering system in use today was started—is a tremendous volume by any standard. Surely it points up the complementary influence of the United States Patent System on the technological, scientific and economic growth of the country. This is a record of achievement for the genius, industry and inventiveness of Americans from all walks of life.

These 3,000,000 patents, published and fully disclosed to the public, make up the greatest and most important treasure of applied technical knowledge in the world. Their influence on American creative and inventive genius is beyond calculation.

The certain conclusion to be drawn from this milestone is that the United States has come a long way from an agricultural economy to the greatest and most productive industrial nation in the world. The Patent System as a stimulus to invention, in disclosing invention and inducing investment, has been a vital ingredient in this growth.

It takes an impressive number, like 3,000,000, to remind us how far we have come and where we are headed. We are proud, in this issue of the OFFICIAL GAZETTE, to call this milestone to your attention.

DAVID L. LADD,
Commissioner of Patents.

SCIENTIFIC AND TECHNICAL
U.S. DEPARTMENT OF COMMERCE
PATENT & TRADEMARK OFFICE
INFORMATION CENTER

PATENTS

NOTICES

Claims in Subparagraph Form

The presentation of claims divided into subparagraphs and indented according to structure, ingredients or process steps contained in the application is approved. An example of this form of claim is as follows:

"1. A device which is designed to receive fuel and air from suitable sources of supply and to transform said fuel and air into a mixture suitable for combustion, said device comprising in combination:

(*a*) an air manifold,

(*b*) a throttle valve located within said air manifold and mounted on an axis, each end of the throttle valve extending a substantial distance from said axis,

(*c*) said air manifold being of substantially constant cross section in the throttle area,

(*d*) said throttle valve having a mid portion of considerable thickness as compared with its end portions, whereby a venturi effect is created in said air manifold,

(*e*) means to move said throttle so that its ends move beyond the center position in each direction through arcuate paths about an axis,

(*f*) a fuel passageway leading to said air manifold,

(*g*) said fuel passageway merging into an orifice as it enters the air manifold, and

(*h*) the front portion of said throttle being adapted to move through a first arcuate path toward one side of said air manifold, and the rear portion on said throttle being adapted to move through a second arcuate path toward the other side of said air manifold, said orifice being located between planes drawn through the points where the extensions of said first and second arcuate paths would intersect the inner walls of said air manifold, said planes being normal to the axis of said air manifold."

No claim will be objected to solely because it is cast in this form.

Claims in allowed applications will be printed in subparagraph form if so presented by the applicant.

M. C. ROSA,

Aug. 3, 1961. *Director, Patent Examining Operation.*

Tabular Form of Claims

The Director of the Patent Examining Operation has advised the examining corps that "the presentation of claims divided into subparagraphs, ingredients, or process steps contained in the application is approved. * * * Accordingly, no claim should be objected to solely because it is cast in this form. Claims in allowed applications will be printed in subparagraph form if so presented by the applicant."

This order was promulgated because claims presented in this form had on occasion been printed in the patent in the traditional continuous form. The order is consistent with the recommendations of a group of Primary Examiners filed last year with the Commissioner of Patents. These recommendations, which were published in the May 1961 issue of the Journal of the Patent Office Society (43 J.P.O.S. 317,319), read in part:

"In order to facilitate consideration of the claims it is recommended that applicant be strongly urged or required to present the claims in a form convenient for the Examiner to consider such as in an orderly sequence as well as an orderly internal arrangement. Within the claims, the clauses thereof shall be separated, in order that the Examiner may readily determine those individual factors which are essential to the claim."

The order is also consistent with Resolution 2(c) of the Patent Office Affairs (Patents) Committee adopted by the Section of Patent, Trademark and Copyright Law of the American Bar Association in St. Louis—viz.,

"2.(c) *Resolved*, That the Section recommends, at least in the case of lengthy or complex claims, more extensive use of the tabular form of claim wherein individual elements, steps or features are set forth by indentations or other clarifying format."

While it is somewhat more expensive to print patents containing claims in this recommended form, such expense seems to be more than offset by the advantages in facilitating examination.

The cooperation of all patent practitioners is asked in encouraging the presentation of claims in the "clarifying format."

DAVID L. LADD,

Aug. 24, 1961. *Commissioner.*

CORRECTED NOTICE

Punched Cards for Organic Phosphorus Compounds

Sets of punched cards recording the Patent Office analysis of the subject matter of the U.S. Patents pertaining to organic phosphorus compounds in Class 260, subclass 461 may be purchased by the public from the Patent Office.

The punchings in the cards are designed to admit of their mechanical selection by commercially available equipment on the basis of specific or generic categorization of any organic phosphorus compound disclosed in these patents. A description of the system of punch coding is in Patent Office Research and Development Report No. 18, "Mechanized Searching of Phosphorus Compounds" which is available from the U.S. Department of Commerce, Washington 25, D.C., price 25 cents.

A complete set of 3142 eighty-column cards may be obtained upon order addressed to the Commissioner of Patents, Washington 25, D.C. The price is $25.00. It includes the basic set, such addition and correction cards as may be issued through June 1962, and a copy of R. & D. Report No. 18. Purchasers are invited to submit their suggestions for improvement.

C. A. KALK,

Aug. 17, 1961. *Director of Administration.*

New Applications Received During July 1961

Patents	7,054
Designs	369
Plant Patents	7
Reissues	30
Total	7,460

Issue

Patents	768	No. 2,999,241 to No.	3,000,008, incl.
Designs	50	No. 191,297 to No.	191,346, incl.
Plant Patents	3	No. 2,089 to No.	2,091, incl.
Reissues	3	No. 25,035 to No.	25,037, incl.
Total	824		

Board of Appeals Decisions Rendered in the Month of July 1961

Examiner affirmed	206
Examiner affirmed in part	42
Examiner reversed	61
Total	309

Licenses for Filing of Applications in Foreign Countries

The Patent Office continues to receive petitions for retroactive licenses to file applications in foreign countries. It therefore seems desirable to call attention to the fact that the filing of such applications is still governed by the provisions of 35 U.S.C. 184, which reads, as follows:

§ 1.84. *Filing of application in foreign country.*

Except when authorized by a license obtained from the Commissioner a person shall not file or cause or authorize to be filed in any foreign country prior to six months after filing in the United States an application for patent or for the registration of a utility model, industrial design, or model in respect of an invention made in this country. A license shall not be granted with respect to an invention subject to an order issued by the Commissioner pursuant to section 181 of this title without the concurrence of the head of the departments and the chief officers of the agencies who caused the order to be issued. The license may be granted retroactively where an application has been inadvertently filed abroad and the application does not disclose an invention within the scope of section 181 of this title.

The term "application" when used in this chapter includes applications and any modifications, amendments, or supplements thereto, or divisions thereof.

E. L. REYNOLDS,
First Assistant Commissioner.

Aug. 24, 1961.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter 1—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Pending Application Index; Access to Applications

The following amended rule is adopted, to take effect on publication. The text of this rule was, except in one particular, published in the Federal Register for May 20, 1961 (26 F.R. 4404), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed rule. The amended rule is adopted after consideration of all the material submitted. The rule departs from the published text in the particular addition in the final sentence of paragraph (a), after the word "Commissioner," of the words "and the Trademark Trial and Appeal Board." The added reference to said board is merely informational in character, and notes the significance its decisions have shared with those of the Commissioner since its establishment in accordance with the provisions of Public Law 85–609, approved August 8, 1958, 72 Stat. 540.

Sec. 2.27 is amended to read as follows:

§ 2.27 *Pending application index; access to applications.*

(a) An index of pending applications including the name and address of the applicant, a reproduction or description of the mark, the goods or services with which the mark is used, the class number, the dates of use, and the serial number and filing date of the application will be available for public inspection as soon as practicable after filing. Access to the file of a particular pending trademark application will be permitted prior to publication under § 2.81 upon the showing in writing of good cause for such access. Decisions of the Commissioner and the Trademark Trial and Appeal Board in applications and proceedings relating thereto are published or available for inspection or publication.

(b) After a mark has been registered, or published for opposition, the file of the application and all proceedings relating thereto are available for public inspection and copies of the papers may be furnished upon paying the fee therefor.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 41, 60 Stat. 427, 440, 15 U.S.C. 1123)

DAVID L. LADD,
Commissioner of Patents.

Approved:

HICKMAN PRICE, Jr.,
Assistant Secretary of Commerce for Domestic Affairs.

[F.R. Doc. 61–7556; Filed, Aug. 9, 1961; 8:46 a.m.]

Published in 26 F.R. 7215–7216, Aug 10, 1961

Forms and Rules of Practice in Patent Cases

[*37 CFR Parts 1, 3*]

Notice is hereby given that the United States Patent Office proposes to amend several of its rules relating to patents. The amendments are proposed to be issued pursuant to the authority contained in Title 35, U.S. Code, sections 6 and 31, and other authority.

All persons who desire to submit written data, views, arguments or suggestions, for consideration in connection with the proposed amendments, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., on or before October 2, 1961. An oral hearing will not be scheduled unless sufficient requests for the same are received.

The texts of the proposed amendments follow:

§1.203. [*Amendment*]

1. Paragraph (a) of § 1.203 is proposed to be amended by cancelling the last sentence and inserting the following sentence in lieu thereof: "Claims in the same language, to form the counts of the interference, must be present or be presented, in each application; except that, in cases where, owing to the nature of the disclosures in the respective applications, it is not possible for all applications to properly include a claim in identical phraseology to define the common invention, an interference may be declared, with the approval of the Commissioner, using as a count representing the interfering subject matter a claim differing from the corresponding claims of one or more of the interfering applications by an immaterial limitation or variation."

§ 1.232 [*Amendment*]

2. Paragraph (a) of § 1.232 is proposed to be amended by cancelling "or if the interference involves a patent, a claim of which has been copied in modified form." and inserting in lieu thereof: "or as to a claim included as a count under the last sentence of § 1.203(a) or the last sentence of § 1.205(a)."

§ 1.233. [*Amendment*]

3. Paragraph (d) of § 1.233 is proposed to be amended to read as follows:

(d) The proposed claims (1) must be indicated to be patentable in the opinion of the moving party in each of the applications involved in the motion and (2) must, unless they stand allowed, be distinguished from the prior art of record or sufficient other reason for their patentability given. Furthermore, (3) the reason why an additional count is necessary must be stated. When more than one count is proposed, the motion (4) must point out wherein they differ materially from each other and (5) must show why each proposed count is necessary to the interference. The proposed claims (6) must also be applied to the disclosure of each application involved in the motion, except as to an application in which the claims already appear and the claims identified as originating therein.

4. Section 1.235 is proposed to be amended to read as follows:

§ 1.235 *Motions relating to burden of proof.*

Any party may bring a motion to shift the burden of proof (a) on the ground that he is entitled to the benefit of the filing date of an earlier domestic or foreign application, or (b) on the ground that an opposing party is not entitled to the benefit of an earlier application of which he has been given the benefit in the declaration. (See § 1.224.)

§ 1.341 [*Amendment*]

5. Paragraph (g) of § 1.341 is proposed to be amended by cancelling "in which he served, on the date he left said

division" and inserting in lieu thereof "during his period of service therein."

6. Section 3.47 is proposed to be amended to read as follows:

§ 3.47 *Interference; notice of taking testimony.*

_____ v. _____ } Interference No. _____

_____, 19____

_____

(Name of opposing attorney)

_____

(Address of opposing attorney)

SIR: You are hereby notified that on _____, _____, 19____, at_____ o'clock in the forenoon at the office of _____, _____ Street, _____, _____, I shall proceed to take testimony on behalf of the party _____ in the above identified interference.

The witnesses to be examined are:

(Name of witnesses)	(Residence of witnesses)
_____	_____
_____	_____

The examination will continue from day to day until completed. You are invited to attend and cross-examine.

_____

(Signature of attorney)

PROOF OF SERVICE

_____, 19____.

I hereby certify that on_____, 19____, I served a copy of the foregoing notice of taking testimony upon _____, the attorney for the party _____, by mailing a copy thereof to him at his address as set out in the notice.

_____

(Signature of attorney)

DAVID L. LADD,
Commissioner of Patents.

Approved:

HICKMAN PRICE, Jr.,
Assistant Secretary of Commerce for Domestic Affairs.

[F.R. Doc. 61-7740; Filed, Aug. 14, 1961; 8:48 a.m.]

Published in 26 F.R. 7550, 7551, Aug. 10, 1961

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Appellant's Brief

The following amendment is made, to take effect on publication in the FEDERAL REGISTER. Notice and public procedure, and deferment of the time of taking effect, are deemed unnecessary in view of the nature of the amendment, which is procedural only.

The purpose of this change is to expedite the handling of requests for extensions of time for filing appeal briefs by providing that short extensions may be handled by the Board of Appeals, instead of by the Commissioner. Any extension to a date more than sixty days from the original expiration date must still be sought from the Commissioner, by request brought prior to the expiration of the time sought to be extended. Failure to file either the brief or an appropriate request for extension within the allotted time results in the appeal standing dismissed (37 CFR 1.192(b)) with the consequent abandonment of the application if no claim stands allowed (37 CFR 1.197(c)).

Paragraph (a) is amended by adding the following sentences at the end thereof:

§ 1.192 Appellant's brief.

(a) * * * The Board of Appeals may, for sufficient cause shown, extend the time for filing the brief to a date not later than sixty days after the original expiration date. Any longer or further extension must be sought from the Commissioner. All requests for extensions must be filed prior to the expiration of the period sought to be extended.

(Sec. 1, 66 Stat. 793; 35 U.S.C. Interprets or applies sec. 1, 66 Stat. 801; 35 U.S.C. 134)

Dated: July 28, 1961.

DAVID L. LADD,
Commissioner of Patents.

Approved:

HICKMAN PRICE, JR.,
Assistant Secretary of Commerce for Domestic Affairs.

[F.R. Doc. 61-7328; Filed, Aug. 2, 1961; 8:49 a.m.]

Published in 26 F.R. 6983, Aug. 3, 1961.

Disclaimers

Des. No. 188,189.—*Herman H. Renneker,* Palm Springs, Calif. TELEPHONE HANDSET SUPPORTING DEVICE. Patent dated June 14, 1960. Disclaimer filed Aug. 14, 1961, by the assignee, *H. H. Renneker Co., Inc.*

Hereby enters this disclaimer to the claim of said patent.

2,679,214.—*Sulo Michael Nampa,* Detroit, Mich. FREIGHT LOADING. Patent dated May 25, 1954. Disclaimer filed Aug. 7, 1961, by the assignee, *Evans Products Company.*

Hereby enters this disclaimer to claim 23 of said patent.

2,863,954.—*Herman H. Renneker.* Palm Springs, Calif. TELEPHONE HANDSET SUPPORTS. Patent dated Dec. 9, 1958. Disclaimer filed Aug. 14, 1961, by the assignee, *H. H. Renneker Co., Inc.*

Hereby enters this disclaimer to claims 1 and 2 of said patent.

2,977,324.—*Dennis Albert Dowden* and *Alexander Muirhead Ure Caldwell,* Norton-on-Tees, England. CATALYSTS. Patent dated Mar. 28, 1961. Disclaimer filed Aug. 7, 1961, by the assignee, *Imperial Chemical Industries Limited.*

Hereby enters this disclaimer to claims 1, 4, and 8 of said patent.

Erratum

In the OFFICIAL GAZETTE, issue of July 25, 1961, vol. 768, p. 943, first column, under the heading "2,933,784 ALUMINIUM ALLOYS," strike out the entire claim, beginning with "1. A current lead-in device for electric glow discharge" and ending with "throughout its whole extent.", and insert instead *1. An alloy of aluminium consisting essentially of 0.5 to 5 weight percent nickel, 0.1 to 0.3 weight percent titanium, 0.005 to 0.10 weight percent beryllium, 0.1 to 1.0 weight percent iron and 0.05 to 0.5 weight percent silicon, the balance being pure aluminium.*

Patents Available for Licensing or Sale

2,980,406. Impeller Pump. Emile Egger, Cressier, Switzerland. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,988,023. Method of and Apparatus for Burning (Incinerator for Burning Garbage, Etc.). Anthony I. Osswald, 66 Inter-Park Ave., Buffalo 11, N.Y.

Smith-Corona Marchant Inc. offers to negotiate to license any or all of the following 36 patents to domestic manufacturers upon reasonable terms.

Applications for license may be addressed to: Patent Department, Smith-Corona Marchant Inc., 410 Park Ave., New York 22, N.Y.

2,478,630. Power Operated Printing Machine.

2,545,133. Typewriter and Like Separably Interfitted Stem and Molded Cap Keys.

2,599,535. Line Spacing Mechanism for Typing Machines.

2,599,537. Adjustable Margin Regulating Means for Typing Machines.

2,631,713. Case Shift Mechanism for Typewriting Machines.

2,633,223. Silent Key Mechanism for Typewriters.

2,644,566. Line Locking and Margin Releasing Mechanism for Typewriting Machines.

2,660,285. Typewriter Key Touch Controlling Means.

2,664,989. Ribbon Vibrating Mechanism for Typewriting Machines.

2,684,145. Typewriter Type Bar Action.

2,734,613. Power Mechanism for Typewriting Machines.

2,757,773. Power Actuated Typing Mechanism for Business Machines.

2,758,692. Carriage Retarding Device for Typewriters.

2,789,677. Carbon Ribbon Supply for Typewriters.

2,830,688. Power Actuated Typing Mechanism for Business Machines.

2,851,945. Type Striking Platen Operating Means for Visible Printing Calculating Machines.

2,416,369. Actuating Mechanism for Registers.

2,538,826. Calculating Machine (Means to Electrically Pre-Estimate the Value of a Quotient).

2,553,796. Spring Coiling Machine.

2,583,377. Selection Mechanism (for Keyboard Value Entering).

2,604,589. Electrical Trigger Circuits.

Re. 24,042. (Orig. Pat. 2,666,911). Changeable Exhibitors.

2,680,808. Capacitor Charging and Discharging Circuit.

2,689,085. Division Mechanism-Pre-Estimation of Quotient Digits by Dividend-Divisor Comparison.

2,690,302. Counter.

2,690,303. Counter.

2,713,456. Machine for Translating Binary Values to Decimal Values.

2,771,550. Counting Circuits.

2,771,551. Counting Circuits.

2,771,575. Diode Capacitor Regenerator.

2,771,599. Readout Mechanism.

2,822,130. Readout and Radix Conversion From a Mechanical Register to a Capacitive Storage.

2,830,236. Binary Relay.

2,895,674. Calculating Machines.

2,912,162. Square Root Extracting Circuit Arrangements.

2,922,144. Read-Record Circuits.

CONDITION OF PATENT APPLICATIONS AS OF JULY 31, 1961

Total number of pending applications (excluding Designs)	194, 691
Total number of pending Design applications	5, 245
Total number of applications awaiting action (excluding Designs)	91, 822
Total number of Design applications awaiting action	1, 450
Date of oldest new application	April 18, 1960
Date of oldest amended application	April 15, 1960

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS, AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 50, 56, 59, 60, 63, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 65, 68.
(III) REYNOLDS, E.R., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 28, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	12-16-60	12-2-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	1-27-61	11-14-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	9-23-60	10-3-60
4. (VI) FALLER, E. A., Material or Article Handling	12-27-60	12-27-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	8-11-60	8-2-60
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	9-6-60	9-19-60
7. (IV) ANDERSON, E. G., Optics	11-16-60	11-21-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	1-23-61	2-2-61
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	1-16-61	10-18-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	11-15-60	11-3-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	9-7-60	9-1-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	8-15-60	8-11-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	9-9-60	9-23-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	8-26-60	8-3-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	2-14-61	2-14-61
16. (II) ANDRUS, L. M., Telephony Modulators; Radio Detectors; Telemetering Systems; Pulse Modulation Telegraph Systems	7-26-60	7-25-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	9-13-60	9-21-60
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	2-1-61	2-1-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	9-27-60	10-10-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	2-2-61	2-1-61
21. (III) MADER, R. C., Textiles	11-28-60	11-3-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	11-1-60	10-17-60
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education	1-3-61	1-4-61
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	1-4-61	1-4-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	10-10-60	10-7-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	10-3-60	9-19-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	12-16-60	11-16-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	9-22-60	9-6-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod and Packed Joints; Tool-Handling Fastenings	11-9-60	10-31-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	1-23-61	1-23-61

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	9-13-60	9-22-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	10-5-60	10-3-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	10-13-60	9-1-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	10-25-60	11-3-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	11-29-60	12-5-60
36. (V) EVANS, R. L., Measuring and Testing (part)	9-19-60	9-19-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	9-19-60	9-6-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	8-2-60	7-29-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	10-31-60	10-27-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	2-3-61	1-19-61
41. (II) LOVEWELL, N. N., Recorders; Sound Recording; Television; Telegraphy (part); Piezoelectric Devices	10-20-60	10-31-60
42. (II) SRAGOW, I. L. (acting), Electric Signaling (part); Non-linear Reactor Systems	9-9-60	9-15-60
43. (I) KNIGHT, W. B., Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	7-14-60	8-1-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	4-18-60	4-15-60
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	2-16-61	2-1-61
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	8-17-60	8-2-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	12-16-60	12-16-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	6-29-60	7-5-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	9-9-60	9-12-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	10-4-60	10-5-60
51. (II) WESTBY, G. N., Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Transistor and Nonlinear Conductor Systems	7-26-60	7-12-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	1-24-61	2-1-61
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	12-6-60	1-4-61
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	6-20-60	7-11-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	10-17-60	10-7-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	7-18-60	8-2-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	8-12-60	8-8-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	11-29-60	11-17-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	9-15-60	10-6-60
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	9-6-60	8-15-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	1-4-61	1-3-61
62. (IV) LOWE, D. B. (VARNER, L. W., acting), Games; Toys; Amusements and Exercising Devices, Mechanical Guns and Projectors; Photographic Apparatus	11-7-60	10-17-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	9-13-60	9-22-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	7-13-60	9-6-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers; Electric Signaling (part)	9-1-60	9-8-60
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part); Weighing Scales	5-2-60	5-16-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	11-4-60	11-14-60
68. (II) ANGEL, C. D., Data Processors; Digital and Analog Computers	5-26-60	4-28-60
81. (III) MONCURE, J. A., Industrial Arts	4-7-61	4-6-61
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	4-10-61	4-14-61
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	9-13-60	8-19-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	2-1-61	2-2-61
93. WAHL, R. A., Wire Working	1-30-61	1-19-61
94. BERLOWITZ, W., Gas Separation	11-21-60	11-14-60
95. REZNEK, J. (acting), Metallic Building Structures	12-2-60	12-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes—Butadiene	12-23-60	12-1-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during September 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953*.

Patents.....Numbers 2,357,282 to 2,359,276, inclusive
Plant Patents.....Numbers 638 to 642, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

ADAMS AND WAKEFIELD *v.* WOLINSKI

Special Patent Docket No. 95. Decided January 3, 1961

[48 CCPA —; 285 F.2d 133; 128 USPQ 288]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—INTERFERENCES—ELECTION UNDER 35 U.S.C. 141, 146.

"In a two-party interference when the winner in the Patent Office, who is in the position of appellee in an appeal to this court by the loser, elects to go to a District Court under 35 U.S.C. 141, 146, this court dismisses the appeal as a matter of course upon being advised of the filing of the notice of election."

2. SAME—SAME—SAME.

Under circumstances where a three party interference entitled *Keller, Garvin and McMillan* v. *Wolinski* v. *Adams and Wakefield* was decided by the Board of Patent Interferences in favor of Wolinski on July 25, 1960, Adams and Wakefield appealed on September 20, and Keller et al. did nothing until October 10 when they filed in the Patent Office their "Election under 35 U.S.C. 141," saying that they elected "to have all further proceedings conducted as provided in 35 U.S.C. 146"; and upon consideration of the question whether the Adams et al. appeal acted to extend, by the 20 days referred to in 35 U.S.C. 141, the time within which the other losing party, Keller et al. could seek a review in the District Court, *Held* that "In our opinion Keller et al. cannot take advantage of 35 U.S.C. 141 because they ceased to be a party to the interference upon the expiration of the time within which they, as a *defeated* party, could have taken an appeal or have filed a civil action under 35 U.S.C. 146"; that "But for the appeal by Adams et al., their failure to do either would beyond question have left them without recourse to obtain review of the final decision of priority against them"; that "We do not see how the timely appeal of Adams et al. changes the situation"; that "There are various points at which one can cease to be a party to an interference by failing to act and this is one of them"; that "If one cannot be deemed to be a party, it follows that one is not an 'adverse party' "; that "The fallacy of the position taken by Keller et al. is in the apparent assumption that all parties to an interference remain parties to it for as long as any proceedings in the interference are pending"; that "this is patently not the case"; that "*Losers* must apply for the remedies made available to them by statute and rule within the time allowed to them and when they do not they cease to be parties"; and that "The acts of other losers do not alter this status."

3. SAME—SAME—SAME.

"Keller et al. argue that they are 'an adverse party' by virtue of reasons of appeal 9 and 10 included in the notice of appeal filed by Adams et al. These two reasons allege error in the Board's decision only with respect to the Keller et al. request that they be allowed to convert their application into a sole application of Garvin. * * * Keller et al. say a decision as to reasons of appeal 9 and 10 in favor of Adams et al. would prejudicially affect their rights. The answer to this is that since, * * * the party Keller et al. is not a party to this appeal, we would not pass on issues relating to rights of Keller et al. in the instant case even if appellant has assigned error with respect thereto."

4. SAME—SAME—EXTENSION OF APPELLANTS' TIME TO FILE PETITION AND RECORD.

"Keller et al. filed their 'Election' prior to the end of the time within which Adams et al. were required by our Rule 25 to file their petition and record, thus creating the present controversy and uncertainty whether the appeal would proceed in this court. The Patent Office has certified to us only copies of the papers called for by said Rule in election cases, plus the Board opinion; but since the appeal is to proceed, appellants' time to file their petition and a proper record is hereby extended to ten days after the date hereof, subject to any further extension the Commissioner may grant to enable the copy of the record to be prepared."

ON MOTION. Interference No. 87,508.

Motion to Refuse to dismiss appeal GRANTED.

Motion to strike Notice of Election by party Keller et al. DISMISSED and to adjudge Keller et al. without standing in instant appeal GRANTED.

Motion to dismiss appeal DENIED.

Harry H. Levin, Paul A. Rose, Curtis, Morris & Safford, Truman S. Safford for Adams and Wakefield.

Edward B. Beale and *A. Newton Huff* for Wolinski.

Cushman, Darby & Cushman, Richard G. Kline for moving party Keller et al.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

The above entitled appeal arose out of a three-party interference, No. 87,508, which was entitled, in the Patent Office, *Keller, Garvin and McMillan* v. *Wolinski* v. *Adams and Wakefield*.[1] Priority was awarded to Wolinski by the Board of Patent Interferences on July 25, 1960.[2] September 20 Adams and Wakefield appealed to this court. Keller et al. did nothing until October 10 when they filed in the Patent Office their "Election Under 35 U.S.C. 141," saying that they elected "to have all further proceedings conducted as provided in 35 U.S.C. 146." It will be observed that this notice was filed more than the 60 days after the Board's decision allowed for taking an appeal, but within the 20 days after the taking of the appeal to this court by Adams et al., the latter period being that specified in 35 U.S.C. 141.

[1] In a two-party interference when the winner in the Patent Office, who is in the position of appellee in an appeal to this court by the loser, elects to go to a District Court under 35 U.S.C. 141, 146, this court dismisses the appeal as a matter of course upon being advised of the filing of the notice of election. Had Wolinski, the winner in this case, elected to go to the District Court, we should no doubt have dismissed. Wolinski, however, made no such election and expressly desires that the review of the decision of priority in his favor shall be by this court.

Keller et al., who, like Adams et al., could have appealed to this court within 60 days of the Board decision, did not do so. By the provisions of the statute and Patent Office rule their right to review by appeal was therefore lost. Within the same 60 day period Keller et al. could have initiated an action in the District Court under 35 U.S.C. 146. They did not do so. Had Adams et al. not appealed to this court, Keller et al. would therefore have had no right to a review of the award of priority against them, either by appeal or by civil action in a District Court. By their purported notice of election, however, they now seek to force the review, initiated by the other losing

[1] The Board's opinion discusses and rules on efforts by Keller et al. to convert their application into a sole application by Garvin as to the interference count. Such conversion was approved but formal conversion was deferred until after termination of the interference. The Board treated Garvin as the sole inventor.

[2] In brief, the basis of the award to Wolinski was that Adams et al. did not disclose in their application the invention of the count and Keller et al. (to become Garvin as in note 1, supra) failed in their attempt to overcome Wolinski's filing date by proof of prior conception or actual reduction to practice by Garvin.

party, into the District Court against the combined opposition of appellant Adams et al. and appellee Wolinski, and to participate in that trial de novo.

The question now before us, taking one view of the matter, is whether the Adams et al. appeal to this court acted to extend, by the 20 days referred to in 35 U.S.C. 141, the time within which the other losing party, Keller et al., could seek a review in the District Court. Taking another view, Adams et al. having appealed and Keller et al. having done nothing within the 60 day period, the question is whether Wolinski is the only one who can "elect," under section 141, to have all further proceedings conducted under section 146, or whether Keller et al. can now force them into the District Court against their wills.

These questions are formally raised by three complementary motions in this court. The first motion is that of Adams et al., filed November 14, 1960, asking that we refuse to dismiss their appeal to us. Wolinski, by a statement filed November 18, concurred in that request. The second motion is by Wolinski, filed December 13, asking us to strike from the files of this appeal the Keller et al. election and to adjudge Keller et al. to be without standing in this appeal. The third motion, filed December 20, is by Keller et al. asking us to dismiss the appeal of Adams et al. "pursuant to the Notice of Election filed with the Commissioner of Patents on October 10, 1960, under the provisions of Section 141 of Title 35 U.S.C." Extensive memoranda support the motions. Obviously the basic issue is whether we will dismiss the appeal to this court by Adams et al.

Keller et al. rely primarily on a literal construction of the language of 35 U.S.C. 141 which provides for the dismissal of an appeal to this court "if *any adverse party to* such interference" (our emphasis) files a notice of election. Keller et al. say they are an "adverse party," that they timely filed a notice of election and that if we do not dismiss we are legislating "contrary to the expressed purpose, intent and language of the statute." They say that legislative history and court decisions clearly indicate the purpose of Congress to allow "any defeated applicant in an interference" to have an appeal to this court dismissed and to require his "adversary" to resort to a civil action but they refer to no history or case so indicating.

Wolinski, the winner below and appellee here, argues that the Keller et al. notice of election is "a null, void and meaningless document." He further contends that Keller et al., as a *defeated* party which took no steps within 60 days to obtain review of the decision *adverse* to it, has no standing in these subsequent proceedings. Precedents relied on include *Wheeler et al.* v. *Kleinschmidt et al.*, 32 CCPA 975, 149 F.2d 161, 65 USPQ 407, *Beall* v. *Ormsby*, 33 CCPA 959, 154 F.2d 663, 69 USPQ 314, *Thompson* v. *Dunn et al.*, 35 CCPA 957, 166 F.2d 443, 77 USPQ 49, and *Island Road Bottling Co.* v. *Drink-Mor Beverage Co.*, 30 CCPA 708, 132 F.2d 129, 56 USPQ 65, all for the general proposition that *defeated* parties who do not appeal to this court are not parties and have no standing in this court to control its actions. The precedent principally relied on, however, is *Nelson* v. *Berry et al.*, 19 CCPA 1270, 59 F.2d 351, 14 USPQ 57.

There appears to be no prior case on all fours with this one, perhaps for the reason suggested by Wolinski that "no defeated interferant in a three-party interference has ever been known to run the risks inherent in failing to take positive action to seek review within the limit of appeal provided by law."

In *Nelson* v. *Berry et al.*, the closest precedent we know of, one Jardine who had been a party along with Nelson and Berry et al. (in fact he seems to have been the "et al.") in two of four interferences involved in the appeal, did not appeal to this court and the court said "he cannot be regarded as a party to the appeal before us." Jardine had, however, brought suit under R.S. 4915 in those two interferences and then attempted to move this court (seeking to that extent to be treated as a party) to stay its proceedings on appeal therein. Nelson and Berry both objected, as Adams et al. and Wolinski are objecting here, saying that Jardine had no right to move in this court because he was not a party to the appeals. Notwithstanding the fact that Jardine had filed his suits within a month of the Board's decisions and before the appeals to this court were taken, it was held that Jardine could not stay the proceedings in this court. The case is distinguishable, however, because no notice of election under the then applicable statute, R.S. 4911, the predecessor of 35 U.S.C. 141, was filed by Jardine.

[2] In our opinion Keller et al. cannot take advantage of 35 U.S.C. 141 because they ceased to be a party to the interference upon the expiration of the time within which they, as a *defeated* party, could have taken an appeal or have filed a civil action under 35 U.S.C. 146. But for the appeal by Adams et al., their failure to do either would beyond question have left them without recourse to obtain review of the final decision of priority against them. We do not see how the timely appeal of Adams et al. changes the situation. There are various points at which one can cease to be a party to an interference by failing to act and this is one of them. If one cannot be deemed to be a party, it follows that one is not an "adverse party." The fallacy of the position taken by Keller et al. is in the apparent assumption that all parties to an interference remain parties to it for as long as any proceedings in the interference are pending. This is patently not the case. *Losers* must apply for the remedies made available to them by statute and rule within the time allowed to them and when they do not they cease to be parties. The acts of other losers do not alter this status.

[3] Keller et al. argue that they are "an adverse party" by virtue of reasons of appeal 9 and 10 included in the notice of appeal filed by Adams et al. These two reasons allege error in the Board's decision only with respect to the Keller et al. request that they be allowed to convert their application into a sole application of Garvin. (See note 1, supra.) Keller et al. say a decision as to reasons of appeal 9 and 10 in favor of Adams et al. would prejudicially affect their rights. The answer to this is that since, as we have held above, the party Keller et al. is not a party to this appeal, we would not pass on issues relating to rights of Keller et al. in the instant case even if appellant has assigned error with respect thereto.

For the foregoing reasons we dispose of the motions as follows:

The Adams et al. motion that we refuse to dismiss the appeal is granted.

Wolinski's motions (1) to strike the Keller et al. notice of election is dismissed because said notice was filed in the Patent Office and is beyond our control; (2) to adjudge Keller et al. without standing in the instant appeal is granted; (3) to refuse to dismiss the appeal is granted.

The Keller et al. motion that we dismiss the appeal is denied.

[4] Keller et al. filed their "Election" prior to the end of the time within which Adams et al. were required by our Rule 25 to file their petition and record, thus creating the present controversy and uncertainty whether the appeal would proceed in this court. The Patent Office has certified to us only copies of the papers called for by said Rule in election cases, plus the Board opinion; but since the appeal is to proceed, appellants' time to file their petition and a proper record is hereby extended to ten days after the date hereof, subject to any further extension the Commissioner may grant to enable the copy of the record to be prepared.

Motion to Refuse to dismiss appeal GRANTED.

Motion to strike Notice of Election by party Keller et al. DISMISSED and to adjudge Keller et al. without standing in instant appeal GRANTED.

Motion to dismiss appeal DENIED.

U.S. Court of Customs and Patent Appeals

H.D.T. COMPANY FACTORS, INC. *v.* H. M. SINCLAIR, JR., TRUSTEE FOR THE OHIO PARTNERSHIP, THE SINCLAIR MANUFACTURING COMPANY

No. 6650. Decided April 14, 1961

[48 CCPA —; 288 F.2d 947; 129 USPQ 283]

TRADEMARK—CONFUSING SIMILARITY—"CORAL" AND "BLUE CORAL" FOR CLEANERS.

In an opposition by the registrant of "BLUE CORAL" for an automobile polisher and cleaner against a trademark application seeking to register the mark "CORAL" for household liquid synthetic detergent, *Held* that "There is no question but that BLUE CORAL is an arbitrary mark as used on opposer's product, but we do not agree with opposer that CORAL is the feature which makes the mark distinctive in the public's mind; that "BLUE is not descriptive of coral"; that "We strongly doubt that the public associates blue with coral even though a technical description of coral includes blue and other colors"; and that "When blue is used with coral, a unique and distinctive combination is created which is not likely to be confused with Coral by purchasers of these products."

APPEAL from the Patent Office. Opposition No. 37,531.

AFFIRMED.

William E. Schuyler, Jr. (*Francis C. Browne* and *Andrew B. Beveridge*, of counsel) for appellant.

Freeman Crampton, Burns, Doane and *Benedict* (*James P. Burns*, of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Trademark Trial and Appeal Board of the United States Patent Office, 123 USPQ 57, dismissing an opposition to the registration of the word "Coral" as a trademark for "a household liquid synthetic detergent." The applicant, appellee here, is H. M. Sinclair, Jr., as trustee for The Sinclair Manufacturing Company. The opposer-appellant is H.D.T. Company Factors, Inc., owner of the registered marks "BLUE CORAL" for an automobile polish and automobile cleaning and polishing service and "BLUE CORAL SEALER" for a polish preservative.

Applicant's detergent, "Coral," is sold in retail grocery stores and supermarkets, in 22- and 32-ounce cans, through the usual wholesale channels in all States east of the Rocky Mountains, and is intended primarily for washing dishes although it is also recommended for washing automobiles and certain textiles. The letters of "Coral" in the trademark application and displayed on applicant's goods are drawn so as to simulate rough natural pieces of coral. A first use of "Coral" in commerce on April 10, 1956, is alleged.

Opposer started to use "BLUE CORAL" as a trademark in 1928 in connection with a liquid cleaner and polish for automobiles. Later, opposer used "BLUE CORAL SEALER" in reference to a wax paste polish preservative and "BLUE CORAL" as a service mark. The cleaner-polish is packaged in 16-ounce bottles and the sealer is packaged in 80-gram jars and 227-gram cans. Both cleaner and sealer are blue in color and blue is the predominate color of the containers and labels.

Opposer has chosen to distribute its products solely through new automobile dealers. These dealers use opposer's products on the cars of their customers and sell the products to car owners for do-it-yourself applications. Opposer has agreements with the Cadillac and Pontiac Divisions of General Motors Corporation and with the Lincoln-Mercury Division of Ford Motor Company under which the container labels of opposer's products will recite both the name of the motor car company and opposer's name. For example, one "BLUE CORAL" label in evidence bears the word "Cadillac" in script letters of approximately the same size as the block letters in "BLUE CORAL," and also recites on the left side of the label: "Distributed by CADILLAC MOTOR CAR DIVISION. * * * By Special Arrangement With H.D.T. COMPANY, FACTORS * * *." The right side of the label recites "A Cadillac BLUE CORAL TREATMENT HAS NO EQUAL."

The president of opposer testified that the products are shipped to the Cadillac Motor Car Division. Cadillac then ships the products to their distributors who in turn ship to their dealers. Opposer also sells and ships its products directly to other new automobile dealers, using for those shipments its own H.D.T. Company labels.

There is no dispute as to opposer's prior use of its mark. The sole issue is whether concurrent use of "Coral" and "BLUE CORAL" on the respective goods of the parties is likely to cause confusion or mistake or to deceive purchasers as to the source or origin of the goods.

In dismissing the opposition, the Board stated:

* * * Considering the nature of and the differences between the products of the parties together with the conditions and circumstances under which they are ordinarily sold and the differences between the marks "CORAL" and "BLUE CORAL," it is concluded that purchasers would not be reasonably likely to assume that these products originated with or are in some way connected with the same producer.

Opposer urges several reasons for reversal of the

Board's decision. It is pointed out that "Coral" detergent can be used to wash sand and grit from automobile surfaces while "BLUE CORAL" can thereafter be used to clean and burnish the same surface and "BLUE CORAL SEALER" can finally be used to protect the resulting cleaned polished surface. It is urged that this common theme of performing different functions consecutively on the same surface to accomplish a desirable end result will associate the products in the minds of the public so that use of similar marks is likely to result in confusion. It is also asserted that materials for cleaning and polishing automobiles are ordinarily distributed along with synthetic liquid household detergents, such as that manufactured by applicant, in grocery stores, supermarkets, and drug stores. It is argued that, although opposer has chosen to restrict the marketing of its product to new car dealers, channels of distribution are subject to change and opposer should not be deprived of the presumption that all conventional modes of distribution are contemplated. Further, opposer urges that its mark, "BLUE CORAL," is dominated by the word "CORAL" and that "BLUE" is merely descriptive of the color of the products and containers.

There is no question but that "BLUE CORAL" is an arbitrary mark as used on opposer's product, but we do not agree with opposer that "CORAL" is the feature which makes the mark distinctive in the public's mind. "BLUE" is not descriptive of coral. We strongly doubt that the public associates blue with coral even though a technical description of coral includes blue and other colors. When blue is used with coral, a unique and distinctive combination is created which is not likely to be confused with "Coral" by purchasers of these products.

Although it may be customary to wash an automobile before polishing it, we believe that the products used for these two distinct purposes are so different in composition and in preparation for using that the products in and of themselves can be judged dissimilar. Also it should be remembered that the primary use of applicant's detergent is in dish washing whereas opposer's product is used to polish automobiles. The usual characteristics and uses of the products should be determinative.

Regarding the channels of trade, opposer has gone to great pains to prove that it has been selling its products, "BLUE CORAL" cleaner and wax, practically exclusively to the great automobile manufacturers and dealers of this country and it is just as clear that applicant channels its product through supermarkets and grocery stores. This evidence convinces us that these automobile manufacturers, such as General Motors and Ford, and the thousands of automobile dealers throughout the country identify opposer's product by this trademark, so much so that it is unlikely that this group of purchasers or the public generally who purchase from the dealers would ever confuse opposer's products with applicant's household detergent, primarily used for washing dishes and sold under the trademark "Coral" in supermarkets and grocery stores.

Of course, as opposer argues, consideration should be given to its right to change its marketing practices, but not to the extent of concluding that similar channels of rade are probable, in view of all of the evidence that has been presented to us by the opposer to the contrary. Opposer revels in the exclusiveness of its channel of trade—the automotive industry—and we believe in reading the whole record that it is very improbable that opposer would ever use applicant's channels for trade. However, if in the future it did, we believe that the differences in the marks and the products negate the likelihood of confusion by purchasers as to the source of the goods. This is especially so if the products were sold in the same supermarkets and grocery stores in view of the shape of the letters in "Coral" in applicant's mark.

In view of our analysis of the situation, we are of the opinion that the use by applicant of its trademark on its goods is not likely to cause confusion or mistake or deceive purchasers. We therefore affirm the decision of the Board.

AFFIRMED.

SMITH, *J.*, concurring:

In concurring with the decision of the majority, I do so only for the reason that applicant's mark "Coral" as used on its household liquid synthetic detergent does not so resemble opposer's previously registered mark "BLUE CORAL" as to be likely to cause confusion, mistake or deception of purchasers. The marks do not sound alike or look alike. The mark "BLUE CORAL" calls forth a mental image and psychological response which is distinct from the imagery and psychological response called forth by applicant's mark "Coral."

Since either party may extend its business into products more closely competing than those here before us and since each party is free to change its marketing practices, I do not think it necessary or desirable to base this decision upon a comparison of the goods and the present marketing practice as is done in the majority opinion in partial support of the conclusion there reached.

U.S. Court of Customs and Patent Appeals

IN RE ALEXANDER C. MCCABE

No. 6649. Decided March 15, 1961

[48 CCPA —; 287 F.2d 921; 129 USPQ 149]

PATENTABILITY—PARTICULAR SUBJECT MATTER—APPARATUS FOR SHAPING GLASS TUBING.

The decision of the Board of Appeals refusing certain claims to apparatus for shaping glass tubing is affirmed.

APPEAL from the Patent Office. Serial No. 289,850.

AFFIRMED.

Carl Hoppe (*James F. Mitchell*, of counsel) for appellant.

Clarence W. Moore (*George C. Roeming*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming the rejection by the Primary Examiner of claims 12 and 13 of appellant's application for a patent on machines for heating glass tubing. Certain claims have been held by the Examiner to be withdrawn from

consideration under the provisions of Rule 142(b) and are not before us. No claims have been allowed.

The appealed claims are:

12. Apparatus for reshaping lengths of glass tubing comprising a frame, a first and a second horizontal shaft rotatably mounted on said frame in parallel relationship and at substantially the same elevation, a plurality of first rollers on and disposed normal to said first shaft, a plurality of second rollers on and disposed normal to said second shaft, said first roller being positioned offset on the corresponding second rollers in a direction parallel to the axes of rotation of said shafts, means for rotating one of said shafts, said shafts being spaced apart and said rollers having diameters such that a length of glass tubing positioned on said rollers is cradled thereby above the level of said shafts and rotated by said rollers as the shaft revolves, and means for holding a short length of glass tubing in contact with the roller cradle comprising a shiftable holddown roller, a bell crank rotatably mounting said hold-down roller, and manually operable means for shifting said bell crank to operate said holddown roller into and out of contact with a short length of glass supported by said rollers, said holddown roller having its axis of rotation parallel to said shafts; and means for heating a portion of glass tubing supported on said rollers.

13. Apparatus for reshaping lengths of glass tubing comprising a magazine having an inclined floor consisting of a plurality of inclined slat members, a fixed, longitudinally extending stop at the lower end of said magazine, said last mentioned stop being triangular in cross section with one shortest side substantially vertically disposed and positioned toward the upper end of said magazine, feeding means associated with said magazine and including a longitudinally extending horizontally disposed member arranged for vertical reciprocation adjacent said longitudinally extending stop, manually operable means for reciprocating said member, whereby lengths of glass tubing may be urged from said magazine one by one by lifting said lengths over said shorter side of said fixed stop to roll down one of the other sides of said stop, a frame, a first and a second horizontal shaft rotatably mounted on said frame in parallel relationship and at substantially the same elevation, a plurality of first rollers on and disposed normal to said first shaft, a plurality of second rollers on and disposed normal to said second shaft, said first rollers being positioned offset on the corresponding second rollers in a direction parallel to the axes of rotation of said shafts, means for rotating one of said shafts, said shafts being spaced apart and said rollers having diameters such that a length of glass tubing positioned on said rollers is cradled thereby above the level of said shafts and rotated by said rollers as the shaft revolves, and means for holding a short length of glass tubing in contact with the roller cradle comprising a shiftable holddown roller, a bell crank rotatably mounting said holddown roller and manually operable means for shifting said bell crank to oscillate said holddown roller into and out of contact with a short length of glass supported by said rollers, said holddown roller having an axis of rotation parallel to said shafts; and means for heating a portion of glass tubing supported on said rollers.

The references relied on by the Examiner and the Board are:

Koenig, 1,455,056, May 15, 1923.

Dichter, 2,226,303, Dec. 24, 1940.

Appealed claim 12 recites a machine for heating a length of glass tubing until it is soft enough to be bent into another shape such as that of a neon sign letter. The machine includes two adjacent parallel horizontal shafts on which rollers are positioned. The shafts and rollers are disposed so that a glass tube will be cradled by the rollers of both shafts. The glass tube is caused to rotate by rotation of one of the shafts and is heated while rotating. Also included is a separate "holddown roller" meant to hold a short length of glass tubing in contact with the cradling rollers and comprising a roller with an axis of rotation parallel to the shafts and mounted on one end of a bell crank. The bell crank is mounted so that the roller may be shifted into or out of contact with the rotating length of glass tubing.

Appealed claim 13 recites the apparatus of claim 12 in combination with apparatus which holds a supply of glass tubes and will feed them one at a time from the holder. The latter apparatus comprises a table with an inclined top. Lengths of glass tubing are to be arranged on the table top in a single layer and parallel to the lowest edge of the top. A stop along the lowest edge of the table top prevents the tubes from rolling down and off the top. A tube is fed from the table top mechanically by pushing up the lowest tube until it clears the stop whereupon the tube rolls off by gravity. The other tubes remain on the table top until each in turn assumes the lowest position on the top and is pushed up over the stop. It is apparently intended that the lowest edge of the table top be adjacent, slightly above, and parallel to the shafts of the cradling rollers recited in claim 12 so that a glass tube rolling from the table top will fall into rotating position on the rollers. This desired coaction between the feeding machine and the rotating machine is, however, not recited in claim 13.

The Koenig patent discloses a machine intended to operate on lengths of glass tubing so as to simultaneously divide each length of tube into two parts and close the new end of each part. The Koenig machine comprises two adjacent parallel horizontal rotating shafts with disc rollers mounted thereon so that a glass tube will be cradled and rotated by the discs. Another pair of disc rollers, each mounted on an arm and positioned above an end of the glass tube, bear down on the tube. Each of the latter pair of upper rollers has a rotational axis in skewed relation to the rotational axis of the cradling roll shafts so that each will exert a force outward along the axis of the rotating glass tube. Heating flames are directed toward the middle of the cradled glass tube. When the glass becomes soft enough, the combination of outward and downward force of the upper rollers pulls the tube apart and causes it to fall from the cradling rolls as two completed vials. Thereupon, a pusher arm is automatically actuated whereby another glass tube is delivered from an adjacent vertical magazine to the cradling rolls.

The Dichter patent discloses a machine designed to reform the closed or bottom end of a glass vial. As in the Koenig machine, the Dichter machine includes a pair of shafts with disc rollers mounted thereon and forming a tube-rotating cradle. Two glass vials are placed on the cradle with closed ends facing each other. The open end of each vial is attached to a rotatable blower head so that air may be forced into the vial. Another disc roller is disposed above each vial and opposite the cradling discs, and exerts a continuous pressure on each vial. These upper rollers are so arranged with their rotational axes skewed in relation to the rotational axes of the cradling rollers as to urge the vial axially toward the blower head. A firm fit of blower head with vial mouth is thus assured. Each blower head with attached rotating vial is then moved inward along the axis of rotation toward a button-shaped mold which contacts the heat-softened vial bottom and gives it the desired shape. Pressure of air inside the vial aids in the bottom shaping. The vial bottom may be heated before or while it is in the rotating cradle. Dichter also discloses that letters, decorations, or other marks may be formed on vial walls simultaneously with bottom shaping. For this purpose, a mold in the form of a roller bearing peripheral dies is urged down against the heated portion of the rotating vial. The mold or impression roller is mounted with a shaft on a vertically swingable arm so that the roller may bear down on or be raised from

the glass vial. One pertinent embodiment of impression roller comprises a shaft to which are attached two discs. One disc serves as the impression roll. The other disc of diameter equal to the impression roll disc is mounted parallel thereto on the shaft and serves as a frictional drive wheel for the impression roll disc since the former contacts the rotating vial, apparently at an unheated area.

The rejections of claims 12 and 13 are based on different grounds and we will consider them separately.

Claim 12 stands rejected as being "unpatentable over Dichter." The sole issue appears to be whether Dichter discloses or suggests a holddown roller having its axis of rotation parallel to that of the supported glass tube. It is not urged that Dichter does not disclose the combination of the other elements recited in claim 12. The Board found that both the imprinting rolls and the skewed rolls of the Dichter machine perform a "hold-down function." With regard to the former rolls, the board stated:

> * * * As we view the function and operation of these rolls it is believed that they perform a function of applying a downwardly directed force to the top portion of the tube wall as the tube is cradled on the rotating rolls 22. This force acts to hold the tubing "in contact with the roller cradle" and even though appellant designates his rolls as a holddown roll such designation is believed not to differentiate this element in a manner effective to point out a new and unobvious result or function. * * *

With regard to the skewed rolls which are disposed above the cradled glass tube, the Examiner held that it was a matter of choice whether these rolls are placed parallel or at an angle to the axis of rotation of the glass tube. The Board affirmed this holding, stating:

> * * * the skewed arrangement does not appear to be essential, as particularly evidenced by the omission thereof from Dichter's claims as to the scope of his invention as well as evidenced by consideration of the operation of the device. * * *.

As to the mechanical linkage, including a bell crank, used to support appellant's holddown roller, the Board was of the opinion that these details were "but arbitrary selections providing no essential difference in the contribution thereof to the functioning of the device."

Appellant urges that the axial force or pressure resulting from the skewed rolls of Dichter is essential to the operation of the Dichter machine and that there is nothing in Dichter to suggest that these skewed rollers might be oriented with their rotational axes parallel to the axis of the rotating vials. Appellant admits that the imprinting roller of Dichter could be adapted to perform a holddown function but argues that, as placed by Dichter, it performs an entirely different function and is inoperative to perform a hold-down function since it is meant to contact a softened area of glass which would deform under pressure.

We agree with the Board that claim 12 is unpatentable over Dichter. In our opinion, Dichter shows three sets of rollers which, although they may have other functions, would inherently hold the glass tubes down on the rotating cradle rollers while performing these other functions. The first of these is the impression roller. It is quite obvious that if this roller is to make letters, decorations or other marks on the revolving glass tube it must be in contact with the tube and therefore it would naturally have the effect of holding the tube down.

Appellant claims this impression roller could not also function as a hold-down means because it is applied to the heated glass tubing and therefore it would also deform the tube. We disagree with appellant. The hold-down operation is inherent in the primary function of this roller of making the desired impressions and there is no evidence that in accomplishing its primary purpose it causes deformation of the glass tubing.

Claim 12 also reads on the frictional drive wheel disc of Dichter. There can be no question but that this disc is in contact with the glass tubing since it secures its momentum from the rotating vial itself and it is to be noted that this roller operates on the unheated portion of the vial.

The third set of rollers of Dichter which inherently have a hold-down action are those that are skewed and urge the tubing axially toward the blower head. It is without significance that the primary purpose of these rollers is to cause this axial movement of the tubing rather than to hold it down. It would be perfectly obvious to any layman, no less to one skilled in the art, who was interested only in the hold-down feature to construct these discs so that their axes of rotation would be parallel to the axis of the tubing.

Appellant also argues that claim 12 sets forth a novel combination. However, we agree with the Solicitor wherein he states in his brief that:

> Claim 12 sets forth nothing more than a combination of old elements each functioning only as in the prior art. There is no surprising consequence or new and additional function attributable to the fact of combination. It is well settled that arrangements of old elements so functioning are presumed obvious to one skilled in the art. *In re Wagner*, 32 CCPA 1088, 1092, 149 F.2d 939, 941 (1945); *In re Smith*, 34 CCPA 1007, 1012, 161 F.2d 274, 278 (1947); *In re Crawford*, 45 CCPA 750, 754, 250 F.2d 370, 373 (1957); *In re Attwood*, 45 CCPA 824, 828, 253 F.2d 234, 237 (1958).

We come now to claim 13. The issues relating to the rejection of this claim have not been presented to us with clarity. Consideration of the several statements and arguments of the Examiner, the Board, appellant, and the Solicitor leads us to the conclusion that claim 13 stands rejected primarily because it discloses a combination of a tube feeding device and a tube cradling device, and that such a combination is disclosed in the Koenig patent. Appellant urges that this rejection is not proper because Koenig does not disclose the specific tube feeding device and the specific tube cradling device recited in claim 13.

We believe the Board's rejection of claim 13 is sound. Koenig teaches a combination of an apparatus which feeds the tubes and a cradle structure upon which the tubes are held down while rotated and heated. The basic combination of claim 13 is therefore old.

Appellant contends that because its feeder will handle bent tubes whereas Koenig's apparatus is not constructed to achieve this result, this fact endows its apparatus with patentable significance. We are of the opinion that this contention also is untenable for two reasons. First, although claim 13 does recite that the magazine consists "of a plurality of inclined slat members" and the application states that the slat members "may be removed to provide room for any bends which may have been formed in said glass tubes" there is nothing to indicate how the apparatus would handle bent tubes. The whole operation of the feeder as disclosed in the specification and diagrams negates the possibility of using this apparatus to feed bent

glass tubes to the cradle structure. Second, assuming arguendo that this particular function could be accomplished by appellant's apparatus, there still would be no cooperation between the feeder and the cradle structure which would produce a patentable combination.

In view of the foregoing, we affirm the Board's rejection of claims 12 and 13.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HENRY W. KERN

No. 6,671. Decided April 14, 1961

[48 CCPA —; 289 F.2d 513; 129 USPQ 345]

1. CLAIMS—PRODUCT—PROCESS LIMITATIONS.
"As to claims 27 and 29, which are dependent from allowed claims even if the process were new, that fact does not render a claim for an old product valid."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"FASTENING ELEMENT DESIGNED FOR WELDING."
The rejection of claims to a fastening element designed for welding and to its method of production as unpatentable over the prior art is affirmed.

APPEAL from the Patent Office. Serial No. 442,478.

AFFIRMED.

Balluff and McKinley (*E. J. Balluff*, of counsel) for appellant.

Clarence W. Moore (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior Judge for the Eastern District of Pennsylvania*

KIRKPATRICK, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Board of Appeals of the United States Patent Office sustaining the Examiner's rejection of method claims 22, 24, 25 and 26 and article claims 27 to 31, inclusive, of the appellant Kern's application Serial No. 442,478 for a patent for "Fastening Element Designed for Welding," (in this case a weld nut).

The process claims on appeal relate to a method of making weld nuts from a standard square nut blank by a single application of pressure to cold form the blank between the upper and lower dies of a press. Claim 22 may be taken as representative of the rejected method claims and is as follows:

22. A method of forming a polygonal weld element having a generally axially disposed bore from a discrete blank having substantially parallel generally flat end surfaces and a peripheral surface normal to and intersecting said end surfaces to form meeting edges therewith, said method including the steps of (1) supporting the blank while leaving a plurality of spaced localized areas of one end surface adjacent the edge thereof unsupported, (2) simultaneously and uniformly applying axial pressure of metal deforming intensity against the other end surface directly opposite said areas, (3) uniformly increasing the areas of pressure applied to said other end surface inwardly toward the axial center of the blank so as to axially displace said edge areas to form essentially axially disposed welding projections while (4) maintaining the peripheral surface normal to the planes of the original end surfaces, (5) discontinuing the applied axial pressure when an amount of pressure has been applied sufficient to deform the spaced projections a predetermined axial distance beyond the original plane of said one surface so as to form a polygonal weld element having a plurality of uniform welding projections on one surface at the corners thereof and within the area defined by the peripheral surface of said weld element while confining the axial displacement of said projections so that the tips of said projections will lie in a common plane. [1]

[1] The numbers in the above text do not appear in the claim but have been inserted for convenience of reference in the discussion which follows.

The references relied on by the Board are:

Almdale (1), 2,054,187, September 15, 1936.
Demboski et al., 2,073,467, March 9, 1937.
Green, 2,355,856, August 15, 1944.
Howe, 2,612,647, October 7, 1952.

The Board held that the rejected method claims were unpatentable over Almdale (1) as the basic reference, with Howe, Demboski and Green as secondary references.

In view of Demboski et al. and Howe the appellant cannot well claim that the idea of forming a weld nut from a standard blank in a "one shot" operation is new nor that it is new to displace metal from one side of a nut to form projections on the other side.

Now referring to the first of the five so-called steps called for in claim 22, there is no novelty in using, in a die press operation to form a weld nut, a lower die which by reason of cavities in its surface leaves unsupported the corners of the blank from the underface of which corners metal is to be extruded by pressure applied to the upper face. This is fully disclosed in Howe and, indeed, not only is it obvious, but it would not be possible to extrude metal axially by cold flow from a wholly supported lower surface.

Steps (2) and (5) taken together claim no more than operating the die press in the way in which such tools usually are operated and stopping when enough metal has been extruded to make projections of the desired size and shape.

Step (4), together with the description in step (5) of the welding projections as "within the area defined by the peripheral surface of said weld element" (claims 22, 24 and 25) or "without substantial lateral deformation from the original sides of the blank" (claim 26), merely states an obvious expedient.

The only point at which the appellant can contend with the slightest degree of plausibility that his invention has any novelty over the combined references cited against it by the Board is step (3), "uniformly increasing the areas of pressure applied to said other end surface inwardly toward the axial center of the blank so as to axially displace said edge areas to form essentially axially disposed welding projections." This describes the operation of an upper die with a beveled engaging surface which extends outwardly beyond the outside of the nut and terminates in a blunt face. As the Board pointed out, "The operation of this beveling die will cause pressure to be applied first to the outermost portion of the corner and then to radially inward portions as the metal deforms." As against the contention that this was a novel step, the Board cited Almdale (1) and Demboski. The Almdale drawings, Figs. 2 and 3, disclose a finished nut which shows every feature of alleged patentable novelty of the article of the appellant's application. The appellant's interpretation of Fig. 3 of Almdale as showing bevels on two upper edges rather than at the four corners is answered by the specification, which states that the *corners* may be formed with bevels, and the fact that the term "corners" is consistently used in the specification to denote the intersection of three, not two, surfaces.

Almdale includes in his specification the statement, "The outer corners of the head may be formed with

bevels 18 and the pressure employed in so forming the corners may flow the metal of the head to entirely form the triangular projections 16, or to cause them to extend further.", and a person of ordinary skill in the art would know that the use of a beveled die for this purpose is necessary. The appellant, because of the use of the word "may," refers disparagingly to this statement as "conjectural." However, it seems to us that, although not claimed, it is about as clear a disclosure of how the desired result is to be obtained as anything could be.

It is to be remembered that the article of the application, with its weld projections, is old, and an overall consideration of the rejected claims strongly suggests that the invention, if any, resides in providing tools of the proper form to produce such an article. Given the task of producing the nut of Almdale's Figs. 2 and 3 by die pressing, it would be well within the capabilities of any diemaked skilled in the art to make dies which would produce the desired article. After all, a die is substantially a mold or counterpart for the article desired.

We hold that the Board made no error in affirming the Examiner's rejection of claims 22, 24, 25 and 26.

As to the article claims, these were all rejected by the Examiner, and his action was not reversed by the Board. They are all product by process claims and are all for a fully anticipated product. Of course, those article claims which incorporate disallowed method claims (28, 30 and 31) are not patentable. [1] As to claims 27 and 29, which are dependent from allowed claims even if the process were new, that fact does not render a claim for an old product valid.

[2] We hold that the Board was correct in affirming the Examiner's rejection of the article claims.[2]

AFFIRMED.

SMITH, *J.*, did not sit during the argument and did not participate in the decision.

[2] Petition for rehearing filed by appellant was granted for the sole purpose of changing certain language in the original opinion of the court.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,439,201, R. A. Clark, Jr., Remote radio receiver tuning indicating apparatus; **2,833,859,** H. A. Rahmel et al., System for determining listening habits of wave signal receiver users, **filed** Nov. 3, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c1941, *A. C. Nielson Company* v. *American Research Bureau, Inc.* On defendant's motion, cause transferred to D.C., S.D.N.Y. Mar. 26, 1959.

2,491,925, A. Lazardo, Apparatus for electroplating; **2,640,025,** same, Electroplating barrel, **filed** July 24, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c1226, *Hardwood Line Mfg. Co.* v. *The Stutz Company.*

2,550,964, N. Brookes, Device for determining point at which pipe is stuck in a well; **2,530,308,** P. W. Martin, Apparatus for determining movability of members in wells; **2,530,309,** same, Device for determining relative movements of parts in wells, **filed** July 28, 1961, D.C., S.D. Tex. (Houston), Doc. 13/780, *Phillip W. Martin et al.* v. *Houston Oil Field Material Company, Inc.*

2,530,309. (See 2,530,308.)

2,550,964. (See 2,530,308.)

2,563,794, Rickes and Wood, Vitamin B_{12}; **2,703,302,** same, Vitamin B_{12}-Active composition and process of preparing same, **filed** June 23, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 29/814, *Merck & Co., Inc.* v. *Philadelphia Laboratories, Inc. et al.* **Same, filed** July 21, 1961, D.C., S.D. Ohio (Dayton), Doc. 2626, *Merck & Co., Inc.* v. *Durr Products, Inc. et al.* **Same, filed** July 24, 1961, D.C. Conn. (New Haven), Doc. 8892, *Merck & Co., Inc.* v. *H. L. Moore Drug Exchange, Incorporated et al.* **Same, filed** March 29, 1961, D.C., E.D.N.Y. (Brooklyn), Doc. 61–C–237, *Merck & Co., Inc.* v. *Gyma Laboratories of America, Inc.* Consent judgment; injunction granted Aug. 7, 1961.

2,622,054, A. W. Franklin, Method of making an electrical unit; **2,647,852,** same, Design forming and attaching method, **filed** Jan. 16, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c92, *Resources and Facilities Corporation* v. *Methode Manufacturing Corporation.* Order dismissing cause with prejudice (notice July 27, 1961).

2,629,875, G. W. Geissmann, Slide fastener closures for apparel; **2,654,093,** same, Children's garments; **Reg. No. 563,832** (MERRY MITES BY MERRY HULL AND DESIGN), Merry Hull & Company, Infants and children's coats, hats, vests, rompers, sweaters, booties, slippers, etc., **filed** July 31, 1961, D.C., S.D.N.Y., Doc. 61/2710, *Merry Hull & Company* v. *Hi-Line Co., Inc. et al.*

2,638,305, R. L. Miller, Weight proportioning means and method, **filed** May 6, 1959, D.C. Ariz. (Phoenix), Doc. 3057, *Robert L. Miller* v. *Arizona Sand and Rock Company, Inc.* Cause dismissed July 19, 1961.

2,640,025. (See 2,491,925.)

2,647,852. (See 2,622,054.)

2,649,632, J. S. Kessler, Toggle type connecting assembly; **2,869,211,** Kessler and Ebert, Adjustable toggle-type connecting assemblies, **filed** July 21, 1961, D.C., E.D. Wis. (Milwaukee), Doc. 61–C–181, *Ladish Company* v. *G. & H. Products Co., Inc.*

2,653,370, H. P. Hoopes, Ejection molding apparatus, **filed** July 27, 1961, D.C., N.D. Calif. (San Francisco), Doc. 40/082, *Fibreboard Paper Products* v. *Mundet Cork Corporation.*

2,654,093. (See 2,629,875.)

2,667,859, Murray and Breithaupt, Cattle and hog applicator; **2,765,775,** C. Kramer, Suspended rubbing type animal insecticide applicator, **filed** Aug. 3, 1960, D.C. Kans. (Kansas City), Doc. KC–1427, *Carl Kramer* v. *M. V. Welsh et al.* Stipulation and order of dismissal of complaint for infringement of Patent No. 2,765,775 with prejudice and dismissing counterclaim for invalidity of said patent and counterclaim for infringement of Patent No. 2,667,859 without prejudice July 10, 1961.

2,703,302. (See 2,563,794.)

2,710,660, S. Coleman, Battery hold-down frame of synthetic rubber resin material, **filed** Oct. 14, 1957, D.C., N.D. Ill. (Chicago), Doc. 57c1698, *Van Brode Milling Co., Inc.* v. *Alex Stone et al.* Defendants enjoined (notice July 28, 1961).

2,716,409, E. A. Thesieres, Loose-leaf binder, **filed** June 24, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c997, *Ernest A. Thesieres* v. *Loose Leaf Metals Co. et al.* Order dismissing suit without prejudice (notice July 27, 1961).

2,765,775. (See 2,667,857.)

2,775,294, G. Schwank, Radiation burners; 2,870,830, same, Gas burners, **filed** July 21, 1961, D.C. Minn. (Diluth), Doc. 5/61/51, *American Infra-Red Co., Inc. et. al.* v. *Lambert Industries, Inc.*

2,784,037, A. Rexroth, Apparatus for shooting material into cupolas, **filed** July 25, 1961, D.C., E.D. Mich. (Detroit), Doc. 21/469, *Alfred Rexroth* v. *Bearden Sales & Eng. Co. et al.*

2,795,258, Berry and Wells, Bag, **filed** July 24, 1961, D.C., S.D.N.Y., Doc. 61/2608, *Morris J. Berry et al.* v. *Nappe-Smith Mfg. Corp.*

2,795,677, S. Slater, Electrical wiring device, **filed** July 25, 1961, D.C., S.D.N.Y., Doc. 61/2624, *Slater Electric Inc.* v. *General Electric Company.*

2,813,263, H. C. Warren, Automatic control circuits, **filed** July 24, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c1231, *Tentap Limited* v. *Tigerman Engineering Company.*

2,833,859. (See 2,439,201.)

2,869,211. (See 2,649,632.)

2,870,830. (See 2,775,294.)

2,882,243, R. M. Milton, Molecular sieve absorbents; **2,882,244**, same, **filed** May 13, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c752, *Union Carbide Corporation* v. *W. R. Grace & Co., et al.* Dismissed by stipulation and order Oct. 14, 1960.

2,882,244. (See 2,882,243.)

2,949,978, J. H. Halstead, Vehicle lifting apparatus; **2,956,613**, same, Automatic safety leg, **filed** July 24, 1961, D.C., N.D. Calif. (San Francisco), Doc. 40/074, *John H. Halstead* v. *Globe Hoist Company.*

2,956,613. (See 2,949,978.)

2,959,555, Martin and Abel, Copper and iron containing scale removal from ferrous metal, **filed** June 22, 1961, D.C., E.D. Ill. (Chicago), Doc. 1875–D, *The Dow Chemical Company* v. *Shamrock Chemical Service Incorporated.* Order holding patent valid and infringed; injunction granted; dismissed by stipulation without prejudice July 26, 1961. **Same, filed** same, D.C. Del. (Wilmington), Doc. 2350, *The Dow Chemical Company* v. *Shamrock Chemical Service Incorporated.* Decree as above.

2,964,850, M. A. Herman, Universal style gage, **filed** July 25, 1961, D.C., E.D. Mich. (Detroit), Doc. 21/468, *Martin A. Herman* v. *Shepard et al.*

2,965,986, R. G. Kershaw, Ballast distributing apparatus for railroads, **filed** July 26, 1961, D.C., W.D. Mich. (Grand Rapids), Doc. 4137, *Kershaw Manufacturing Company, Inc.* v. *Kalamazoo Manufacturing Company.*

Re. 24,441 (of 2,800,942), Parker and Brazzil, Apparatus for performing multiple metal working operations of pipe, **filed** Jan. 14, 1958, D.C., S.D. Tex. (Houston), Doc. 11/438, *J. R. Parker et al. v. Brown & Root, Inc. et al.* Decree holding defendants have infringed July 28, 1961.

REISSUES

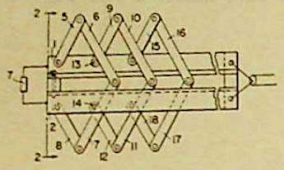
SEPTEMBER 12, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,035
APERIODIC DIRECTIVE ANTENNA

Andrew Alford, Winchester, Mass.
(299 Atlantic Ave., Boston, Mass.)

Original No. 2,910,694, dated Oct. 27, 1959, Ser. No. 427,690, May 5, 1954. Application for reissue Oct. 21, 1960, Ser. No. 64,233
13 Claims. (Cl. 343—732)

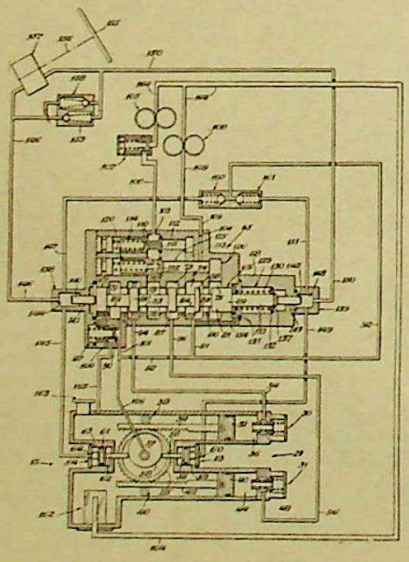


3. An aperiodic directive antenna comprising a transmission line terminated in its characteristic impedance and formed of a pair of parallel conductors with a plurality of conducting links connected between said conductors in parallel to form loops with the plane of the loops positioned substantially parallel to the plane of the line and coupled thereto at spaced points along the transmission line, said loops being substantially $\lambda/2$ where λ is a wave length corresponding to a frequency in the band of reception or transmission and are spaced along the line at distances corresponding to less than $\lambda/4$ from one another.

25,036
FLUID POWER STEERING SYSTEM

Verne P. Donner, Palatine, and William W. Henning, Hinsdale, Ill., and George S. Allin, Jr., Green Bay, Wis., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Original No. 2,917,125, dated Dec. 15, 1959, Ser. No. 653,802, Apr. 19, 1957. Application for reissue Apr. 24, 1961, Ser. No. 105,246
9 Claims. (Cl. 180—79.2)

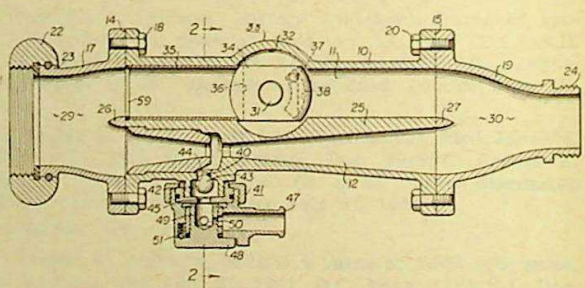


9. For a vehicle of the kind described having a two-wheel tractor pivotally connected to a trailer, said vehicle having a fluid power steering system capable of angularly displacing said tractor with respect to said trailer, said steering system consisting of a first rack member and a second rack member disposed in opposed relation on said tractor and a pinion gear connected to said trailer meshed in steering engaging relation, a first ram connected to said first rack member and a second ram connected to said second rack member in operative relation, a source of fluid pressure on said tractor, a fluid working circuit consisting of a servo-motor operated control valve and fluid servo-motor therefor interposed operatively between said source and said rams for controlling the agnular displacement between said tractor and said trailer, and a fluid control circuit having a manually operated fluid displacement pump for energizing said servo-motor; a follow-up means for moving said control valve from an operating position to a neutral position when a predetermined angular displacement between said tractor and said trailer is reached comprising a cam disposed on said pinion gear in secured relation, a servo-pump having a first cylinder and a second cylinder mounted in opposed relation on said tractor, said cylinders being positioned in operative relation with said cam, said cylinders being communicatively connected to said fluid control circuit whereby said cylinders responsive to movement of said cam actuate said servo-motor of said control valve in a direction for moving said control valve from an operating position to a neutral position when said predetermined angular displacement between said tractor and said trailer is attained.

25,037
BYPASS PROPORTIONER

Jack H. Brazier, Smithville, Ohio, assignor to Akron Brass Manufacturing Co., Inc., Wooster, Ohio, a corporation of Ohio

Original No. 2,953,160, dated Sept. 20, 1960, Ser. No. 756,235, Aug. 20, 1958. Application for reissue Jan. 6, 1961, Ser. No. 81,206
4 Claims. (Cl. 137—599.1)



4. A fire fighting foam producing proportioner comprising, a tubular body having first and second spaced ends, said body having first and second generally parallel through passages, said body including a longitudinally extending web separating said first body passage from said second body passage, said body having a longitudinal axis extending through said web, said web extending along substantially the entire length of said body, said body having first and second outwardly directed flanges at said first and second ends respectively, a tubular inlet mem-

ber having inner walls defining an inlet passage terminating at an inlet opening, said inlet member having an outwardly directed flange, means connecting said first flange on said body and said flange on said inlet member to maintain the body and inlet member in fluid tight engagement, a tubular outlet member having inner walls defining an outlet passage terminating at an outlet opening, said outlet member having an outwardly directed flange, means connecting said second flange on said body and said flange on said outlet member to maintain the body and outlet member in fluid tight engagement, said inlet and outlet members including hose connection means, the axes of said inlet and outlet member passages and said body lying on a common line, the inlet and outlet openings each communicating directly with both of said body passages through said inlet and outlet passages respectively, said inlet member walls flaring smoothly and symmetrically outwardly with respect to the member axis from the inlet opening, said outlet member walls flaring smoothly and symmetrically with respect to the member axis inwardly to the outlet opening, said first body passage being a venturi having a throat therein, said second body passage having substantially uniform cross sectional area from one end to the other, the total of the cross sectional area of said first body passage throat and the cross sectional area of said second body passage being greater than the cross sectional area of the outlet opening, the cross sectional area of the inlet opening being at least as great as the cross sectional area of the outlet opening, a shut off valve carried by the said body and disposed in said second body passage to open and close said second body passage, a foam agent inlet opening communicating with said first body passage, and a foam agent conducting assembly communicating with said foam agent inlet passage, said proportioner having a unidirectional flow from said inlet member to said outlet member when in use.

PLANT PATENTS

GRANTED SEPTEMBER 12, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,089

ROSE PLANT

Anthony Perry, Garden Grove, Calif., assignor to Great Western Rose Company, Inc., Pomona, Calif., a corporation of California

Filed Aug. 16, 1960, Ser. No. 50,044

1 Claim. (Cl. 47—61)

The new and distinct variety of rose plant of the class designated as hybrid tea roses, substantially as herein shown and described, characterized particularly as to novelty by the distinctive bright yellow color of the flowers, the extremely double petalage of the blooms, the medium size and abundance of the blooms throughout the growing season, the excellent petal substance and the lasting quality of the blooms, the long flower stems, and its vigorous upright growth and the heavy glossy foliage.

2,090

ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Nov. 15, 1960, Ser. No. 69,532

1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a medium tall habit of growth, leathery and glossy foliage, a free-flowing habit, quick repetition of bloom, and a distinctive and uniform Empire Yellow general color tonality of the flowers throughout their life.

2,091

ROSE PLANT

Pedro Dot, Barcelona, Spain, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed Nov. 22, 1960, Ser. No. 71,108

1 Claim. (Cl. 47—61)

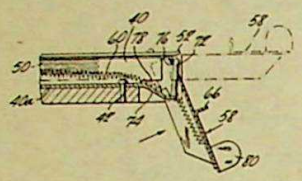
A new and distinct variety of rose plant of the miniature class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a low-growing compact habit of growth, superior floriferousness, attractive blooms of miniature size, a distinctive Mimosa Yellow general color tonality of the blooms, and ease of propagation by cuttings.

PATENTS

GRANTED SEPTEMBER 12, 1961

GENERAL AND MECHANICAL

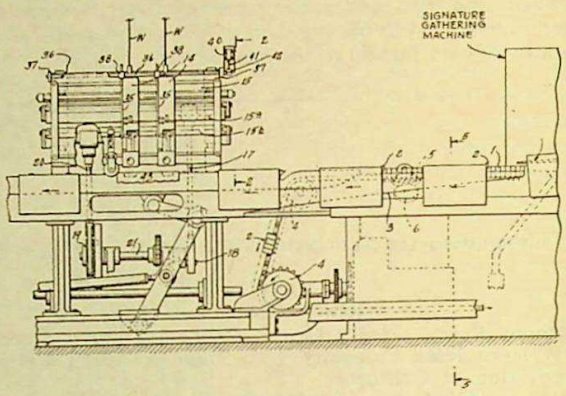
2,999,241
STAPLING DEVICE
Henry J. Starr, 7 Sedgwick Ave., Darien, Conn.
Filed Jan. 29, 1959, Ser. No. 789,871
2 Claims. (Cl. 1—49)



1. A stapler magazine having an elongated staple channel including a loading end adapted to receive a stick of staples, a spring biased staple pusher reciprocably movable in said channel and urging the stick of staples through said channel away from the loading end, a pair of spaced elongated flanges secured to and forming the upper wall of said channel to restrain upward movement of said stapler pusher when said stapler pusher is in said channel, a guide rod mounted at the loading end of said channel and disposed substantially perpendicular to the longitudinal axis of said staple channel, a detent in the forward end of said staple pusher, a slot in said staple pusher arranged in combination with said detent and said guide rod so that at the extreme loading end position of said staple pusher said detent engages said guide rod and said slot is in registry with said guide rod, said staple channel having suitably foreshortened side walls at the loading end thereof for the generally vertical depression of said staple pusher out of said channel and the simultaneous entry of said guide rod in said slot when said guide rod and said slot are in registry, and a notch in the end of said foreshortened walls for retaining said staple pusher out of said channel, there being sufficient play between said guide rod and said slot for the movement of said staple pusher into said notch, thereby facilitating the loading of said stapler magazine.

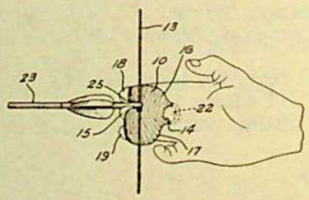
2,999,242
SADDLE STITCHED BOOK MAKING MACHINE
Clarence R. Young, Easton, Pa., and Robert D. Easton, Santa Ana, Calif., assignors to T. W. & C. B. Sheridan Co., New York, N.Y., a corporation of New York
Filed June 10, 1960, Ser. No. 35,358
2 Claims. (Cl. 1—105)

1. A saddle stitched book making machine including means for feeding books assembled for saddle stitching and in series and opened at least sufficiently to permit them to be bound by stitching, a book stitcher having a book stitching station fed by said feeding means and at least one automatic wire stitcher head and means for successively operating said head in cycles for stitching books successively fed to said station and said head having means for feeding from a wire supply a length of stitching wire and which is normally automatically activated in response to said head's operation during each cycle, means for detecting when said station fails to be fed with one of said books ready for stitching, and means automatically responsive to said detecting means for deactivating said wire feeding means while said head operates through its cycle so that said head may be operated through that cycle without stitching action, said wire feeding means comprising wire gripper jaws reciprocating in a wire feeding direction and return therefrom and having means for clamping them on the wire while moving to feed the wire and for unclamping these jaws to permit their return while said head operates to complete a cycle, and



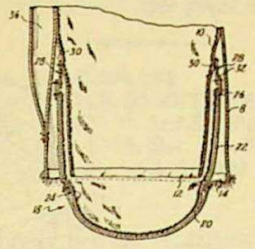
said deactivating means comprising means actuated by said detecting means for holding said jaws unclamped while moving in their wire feeding direction and releasing them at least prior to their again moving in said wire feeding direction unless again actuated by said detecting means.

2,999,243
ARCHERY FINGER TABS
Joseph P. Gross, 3646A N. 19th St., and Elmer G. Perkie, 1514 N. 34th St., both of Milwaukee, Wis.
Filed Sept. 25, 1959, Ser. No. 842,444
2 Claims. (Cl. 2—21)



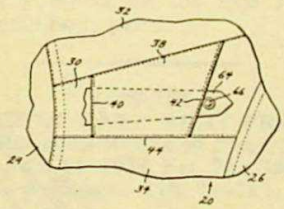
1. An archery finger tab comprising: a first piece having an inner end portion with a finger hole extending transversely therethrough and an enlarged outer portion having a slot therein through which an arrow shaft may be projected; an exterior piece superposed upon and secured to said first piece, said exterior piece having a transverse finger hole therethrough in registration with the finger hole in said first piece, said exterior piece being formed of a material having hair on and lying flat against its exposed surface, and said exterior piece being positioned with the hair filaments directed toward the outer end of the tab; and an inner piece superposed upon and secured to the opposite side of said first piece, said inner piece having a transverse finger hole therethrough in registration with the registering finger holes in said first and exterior pieces, said inner piece being formed of a material having hair on and lying flat against its exposed surface, and said inner piece being positioned with the hair filaments directed toward the tab inner end.

2,999,244
PARKA-BUNTING
Laura B. Wright, 419 4th Ave., Fairbanks, Alaska
Filed Aug. 19, 1959, Ser. No. 834,750
1 Claim. (Cl. 2—69.5)



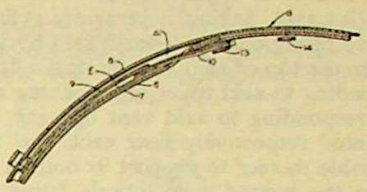
In a sleeved baby bunting, a body portion of a length to extend beyond the feet of an infant and comprising an outer ply of material and a lining therein throughout substantially the entire area of said body portion, said lining being free of securement to said outer ply in the lower regions of said body portion, a closure for the bottom of said body portion in the form of a bag, the periphery of said closure extending upwardly between said outer ply and said lining a substantial distance upwardly from the bottom edge of said body portion and lining, and means for removably securing said closure to the outer face of said lining throughout its entire periphery and at a level upwardly from the bottom edges of said body portion and said lining.

2,999,245
SHIRT
Bernard Lippman, 180 Madison Ave., New York 16, N.Y.
Filed Dec. 30, 1958, Ser. No. 783,808
2 Claims. (Cl. 2—115)



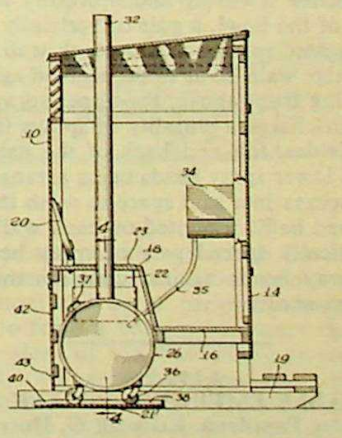
1. A short comprising a body, a yoke extending between a collar and a sleeve portion on said body, a yoke piece intermediate the collar and the sleeve portion, said yoke piece having a length less than the distance between the collar and the sleeve portion, means securing the edges of said yoke piece to a juxtaposed ply of said yoke except for two portions where the yoke piece is not joined to said juxtaposed ply, at least one of said two portions where said yoke piece is not joined to said juxtaposed ply having a length less than the width of said yoke piece, said two portions defining an aperture intermediate said yoke piece and juxtaposed ply adjacent to and spaced from the collar portion and an aperture intermediate said yoke piece and said juxtaposed ply adjacent to and spaced from the sleeve portion, said apertures permitting the space intermediate said yoke piece and juxtaposed ply to receive an epaulet strap, said securement means preventing free movement of an epaulet strap extending through said apertures, and said securement means joining said yoke piece to said juxtaposed ply in a manner so that said yoke piece lies substantially flat and is substantially indistinguishable in the absence of an epaulet strap.

2,999,246
WAISTBANDS FOR NETHER-GARMENTS
John G. Rowan, Clayton, Mo., assignor to Elder Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed Nov. 24, 1958, Ser. No. 776,065
1 Claim. (Cl. 2—221)



A nether-garment including a tubular waistband having front and rear centerlines lying along and defining the crotch-plane of the nether garment, an outer band and an inner band, said outer and inner bands each being folded over inwardly both at the top and at the bottom and being mutually secured in the region of their folds, thereby defining a tunnel, a reinforcing member disposed between the top fold of the outer band and the bottom fold of the inner band and being secured within said folds, an elastic member disposed between said reinforcing band and said outer band and being secured in place in its inner end portion to said reinforcing and inner bands, the other or opposite end of said elastic member being free, said elastic member being attached at a position on the waistband which is approximately midway between the front and rear centerline of the waistband, said reinforcing band and said inner band each being provided with a common slit, said elastic member extending rearwardly between said reinforcing band and said outer band with its free end located a substantial distance forwardly of the common slit and being of such length as to be wholly within the waistband, fastening means on the free end of said elastic section projecting freely through said slit, said fastening means being of less width than said elastic member, and means secured to the waistband adjacent to the mid-portion of the rear of said waistband for engagement with the fastening means of said elastic section when said section is stretched.

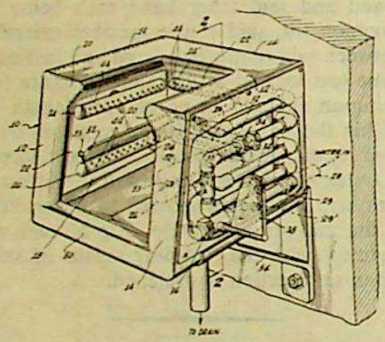
2,999,247
PORTABLE TOILET OR THE LIKE
James M. Kulka, 1623 S. Jefferson St., Chicago, Ill.
Filed Oct. 13, 1959, Ser. No. 846,135
3 Claims. (Cl. 4—119)



1. A toilet unit providing improved sanitation and servicing facility, said unit comprising a housing having a floor, a front wall with an entrance door, a rear wall and a raised toilet seat platform along the inner side of said rear wall, said platform enclosing a chamber within and above the floor of said housing, said platform hav-

ing a horizontal portion in which is placed a toilet seat opening and a vent pipe opening, the rear wall of said housing having an openable panel covering said chamber, spaced U-shaped guide tracks mounted on the floor of said housing and extending from the front of said chamber out beyond the rear of said housing and terminating with flared mouths at a point level with the ground, a large drum-like tank having a generally cylindrical bottom and a top fitting closely beneath said horizontal platform portion, the top of said tank having a flanged opening corresponding to said toilet seat opening and a small opening corresponding to said vent opening, four caster wheels mounted respectively near each end of the tank on the underside thereof to support its bottom horizontally just above the ground, said wheels fitting said tracks to roll said tank sideways into said housing chamber, a movable vent pipe extending through the top of said housing down through said platform to said tank, and a movable collar flange extending from said toilet seat opening to the flanged opening of said tank, whereby said tank when filled can easily be removed from said housing for servicing.

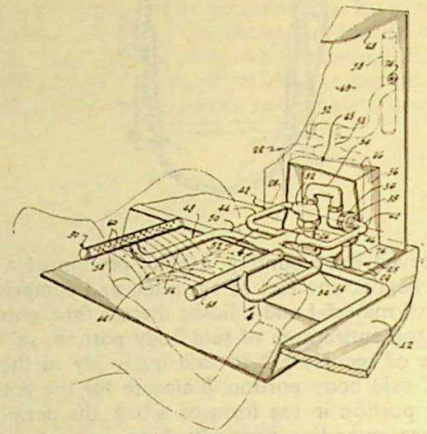
2,999,248
EMERGENCY WASH FACILITY
Hugh H. Logan, Pasadena, James F. Nelson, Woodland Hills, Elmer F. Dixon, La Crescenta, and Joe A. Taube, Burbank, Calif., assignors to Logan Emergency Showers, Inc., Glendale, Calif., a corporation of California
Filed Dec. 28, 1959, Ser. No. 862,170
2 Claims. (Cl. 4—166)



1. An emergency head wash fountain comprising a bowl having side walls and a rear wall defining a washing space which is open at the top and front of the bowl to receive the head of a user, the upper portions of said walls having lips which incline inwardly and upwardly and define the top opening of the bowl, a pair of vertically spaced, horizontally elongated spray heads on each wall below the lip of the respective walls so as to be shielded against contaminants dropping from above, the upper spray heads being arranged to discharge a plurality of sprays into said space to wash the sides, top and back of the user's scalp and head and the lower spray heads being arranged to direct a plurality of sprays into said space to wash the user's face, and an inclined baffle mounted on each wall between the adjacent vertically spaced pair of spray heads to shield the lower spray heads against contaminants and liquid dropping from above.

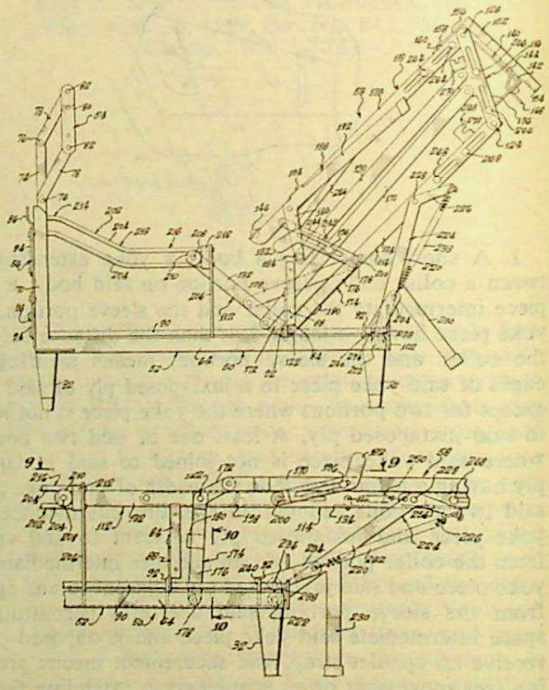
2,999,249
RETRACTABLE EMERGENCY WASH FACILITY
Hugh H. Logan, Pasadena, Kenneth G. Doty, La Canada, and James F. Nelson, Woodland Hills, Calif., assignors to Logan Emergency Showers, Inc., Glendale, Calif., a corporation of California
Filed Dec. 28, 1959, Ser. No. 862,177
4 Claims. (Cl. 4—166)

1. An emergency wash fountain comprising a base to be attached to a supporting surface, a valve mounted on said base including a rotatable valve stem, a liquid spray head means fixed to said valve stem whereby the latter is rotated to open and close the valve by swinging of the spray head means, the spray head means occupying a given retracted position when the valve is closed and a given washing position when the valve is open, said valve having an inlet for connection to a source of liquid under



pressure and an outlet, and means connecting the spray to the valve outlet for flow of liquid from the valve to the spray head means including a liquid-tight swivel joint having its swivel axis coaxial with the turning axis of the valve stem for accommodating said swinging of the spray head means between said retracted and washing positions.

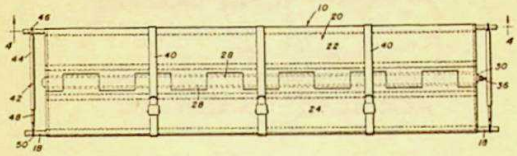
2,999,250
CHAIR BED
Alfred Rea, 2230 Charnwood Ave., Los Angeles 38, Calif.
Filed Mar. 25, 1957, Ser. No. 648,368
1 Claim. (Cl. 5—13)



In a chair bed, the combination of: a main frame; a folding bed frame comprising a series of sections and a series of pivot means each interconnecting two of said

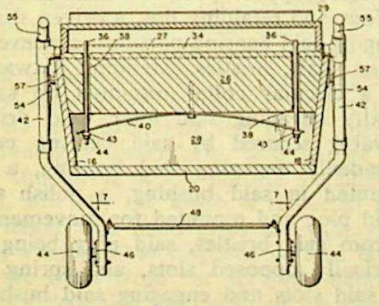
sections; leg means pivotally connected to said bed frame by one of said pivot means and engageable with said main frame; and means responsive to unfolding of said bed frame for moving said leg means into engagement with said main frame, including means interconnecting said leg means and one of said sections of said bed frame which is spaced from the sections thereof that are pivotally interconnected by said one pivot means.

2,999,251
FOLDABLE STRETCHER
Carl D. Hedges, 1806 E. 3rd St., Pueblo, Colo.
Filed Dec. 16, 1958, Ser. No. 780,814
3 Claims. (Cl. 5—82)



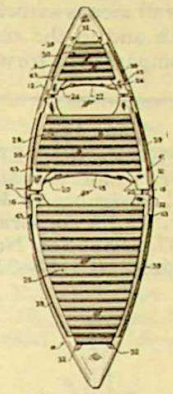
1. A stretcher comprising an elongated main body panel of flexible material having a hem along each edge thereof, a side rail received in each hem, said body panel being constructed of two longitudinally disposed sections having interdigitated loops on the adjacent edges, and a removable metal strap insert threaded through said loops for retaining the longitudinal sections in attached relation thereby permitting the stretcher to be separated along its longitudinal center line for assisting in the removal of an injured person from the stretcher, each loop on the longitudinal sections of the main body panel being provided with a rigid reinforcement hollow member of loop shaped configuration for receiving said strap, hand grips on the ends of the side rails, and a tightener extending between the hand grips, said tightener including a pair of telescopic sections each having an outwardly facing U-shaped yoke on the ends for engaging the side rails, and a spring urging the telescopic sections outwardly thereby spreading the side rails apart and tensioning the main body panel.

2,999,252
SELF CONTAINED BOAT TRAILER
Harold W. Norrby, 5522 Kenwood Place, Seattle 3, Wash.
Filed Aug. 11, 1958, Ser. No. 754,482
5 Claims. (Cl. 9—1)



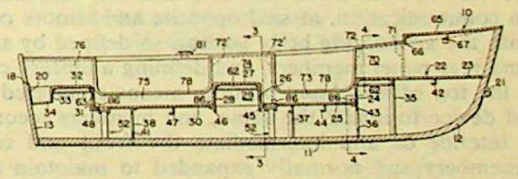
1. A self-contained boat trailer, comprising: a boat hull having a transverse beam fixedly supported adjacent the stern in spaced relation above the bottom, an axle superposed along said beam and extending beyond the sides of the hull, a pair of U-bolts straddling said axle and beam, one on each side of the longitudinal median of said boat, passing downward to a point spaced from the underside of said beam, a leaf spring having each end connected to the lower extremities of one of said U-bolts in spaced relation to said beam underside and intermediately bearing on the beam underside, a strut rotatably depending from each end of said axle externally of the hull, a wheel on each strut remote from the axle, and detachable, brace means between each strut and the boat hull to maintain said strut wheel in ground-engaging position relative the hull.

2,999,253
CONVERTIBLE CANOE AND KAYAK
Arnold S. Lewis, 200 Riverside Drive, New York, N.Y.
Filed Aug. 25, 1958, Ser. No. 756,808
1 Claim. (Cl. 9—2)



A collapsible watercraft comprising a hull having an open top and inflatable side walls with slide fastener members disposed at the top of the side walls, a plurality of panels having edges terminating in end flaps forming concave arcuate end portions, slide fastener members secured along the panel edges terminating short of the flaps and cooperating with said fastener members at the side walls for connecting the panels to the side walls of the hull to form a deck and for connecting the panels in spaced end-to-end relationship to define openings in the deck for occupants of the craft, and latch means for connecting the flaps to the side walls and adapted to release such flaps to expand said openings and facilitate entrance and exit of the occupants of the craft leaving the panels and slide fastener undisturbed.

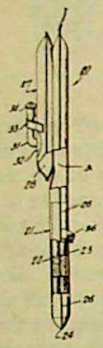
2,999,254
BUOYANT BOAT CONSTRUCTION
Henry J. Nolde, 1308 Alki Ave., Seattle, Wash.
Filed Feb. 24, 1959, Ser. No. 794,945
2 Claims. (Cl. 9—3)



1. A metal boat, comprising: a hull having a bottom with integral sides, a stern and a bow; a floor spaced apart above said bottom and on its periphery integrally joined with the hull to form a bottom buoyancy chamber; said floor near the stern of the boat rising to form a stern-transverse wall, said stern-transverse wall bending in the direction of the stern to form a stern-transverse seat; said floor near the bow rising to form a bow-transverse wall and said bow-transverse wall bending toward the bow to form a bow-transverse seat, a transverse bulkhead in the bow integrally joined with the upper surface of the floor integrally joined with the hull sides; a deck in the bow peripherally integral with the hull and the transverse bulkhead to form a bow buoyancy chamber; each of the sides

of the hull bending interiorly over into a gunwale overlying the sides of said floor, a section of the gunwale bending over into an interior wall spaced from the hull side and extending to and joining with the floor; a pair of transverse walls integral with each said interior wall and the related hull side to form a gunwale buoyancy chamber at each side of the hull above an edge portion of said bottom buoyancy chamber; an interior wall extending beyond said transverse walls at the floor to form a lower interior wall and with the floor, the adjacent side, the transverse wall, and the gunwale defining a locker above the floor; said boat having a notched transom to receive an outboard motor; and wall means associated with said stern-transverse seat beneath and to the rear thereof to define an outboard motor compartment forward of the transom.

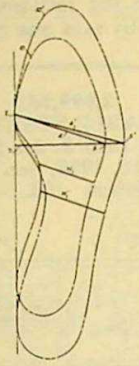
2,999,255
LIFE PRESERVER
Claude O. Lanciano, Jr., Coke, Va., and Peter J. Zannoni, Grantsville, W. Va., assignors to Rubber Fabricators, Inc., Grantsville, W. Va., a corporation of New Jersey
Filed Aug. 27, 1958, Ser. No. 757,554
4 Claims. (Cl. 9—338)



2. An inflatable life preserver device adapted to be secured to a person's body, for buoying purposes, comprising elongated front and rear panel members of generally rectangular outline secured together in air-tight relation at the bottom and side marginal edges and open at the top thereof to thus define an elongated air holding body portion, a yoke member connected to the top of the panel members as a continued planar extension thereof, said yoke member being C-shaped and inflatable and being airtight marginally except at the portion thereof opposite and remote from the ends thereof, and being in open communication, at said opposite and remote portion, with the air holding body portion so defined by said front and rear panel members, and defining a unitary collar for the top of said body portion, means connected to the said device to inflate the same, and members secured to the interior of and intermediate the front and rear panel members and normally expanded to maintain the form of the body portion and being compressible on application of force and then returning to normal expanded form.

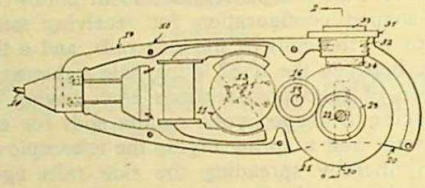
2,999,256
SHOE FITTING
Howard V. S. Mott, Stuart, Okla.
(Southwest City, Mo.)
Filed Nov. 27, 1959, Ser. No. 855,943
7 Claims. (Cl. 12—142)

1. That improvement in methods of manufacturing shoes on a series of lasts of varying arch widths from a last on which the following points have been established, (1) the point of tangency at the medial aspect at the side of the head of the first metatarsal bone with a line parallel with the medial foot border, (2) the point of tangency at the lateral side of the head of the fifth metatarsal bone with a line parallel with the first line, drawing a line between the points of tangency of the first and fifth metatarsal bones to establish an arch width dimension of a foot, providing a last having said arch width



dimension and forming from the selected last a series of lasts of varying arch widths, constructing a series of shoes on said lasts which vary in arch widths, and designating the widths of each member of the series of shoes by the distance between said tangent points.

2,999,257
SHINING AND POLISHING DEVICE
Raymond Estrada, 2609 Ivy Ave., Rapid City, S. Dak.
Filed Feb. 3, 1959, Ser. No. 790,874
1 Claim. (Cl. 15—24)

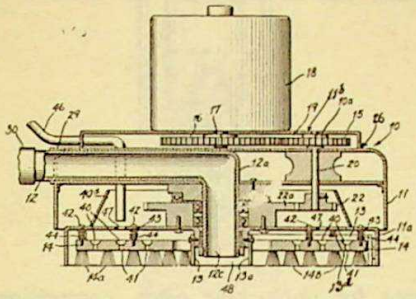


In a shining and polishing device, a hollow housing, a motor arranged in said housing and adapted to be connected to a source of electrical energy, a drive shaft driven by said motor, a wheel mounted on said shaft, an idler journalled in said housing and frictionally engaging said wheel, a pair of spaced parallel opposed support portions arranged in said housing, spring members mounted in said support portions and including offset bearing portions and retaining lips, a driven shaft having its ends engaging said bearing portions, a sleeve mounted on said driven shaft, bristles extending outwardly from said sleeve, a circular collar mounted on said sleeve and frictionally engaging said idler, said driven shaft being removably secured by said bearing portions, a bushing threadedly engaging said housing, a piug adjustably mounted in said bushing, a polish stick connected to said plug and mounted for movement towards and away from said bristles, said plug being provided with diametrically opposed slots, and spring members mounted in said slots and engaging said bushing, there being an opening in said housing, and portions of the bristles extending through said last named opening.

2,999,258
SURFACE-CLEANING AND RUG-SHAMPOOING MACHINES
Edward Berberian, 759 Hudson Blvd., Jersey City, N.J.
Filed Oct. 24, 1958, Ser. No. 769,465
5 Claims. (Cl. 15—50)

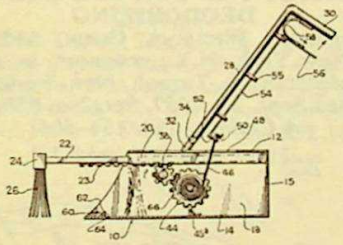
1. A surface-cleaning and rug-shampooing machine which comprises a casing having a downwardly extending

off-take pipe open at its lower end, a horizontal annular disc rotatably mounted on said off-take pipe and having a downwardly open, vertical, cylindrical squeegee wall depending from its outer periphery, a pair of transverse squeegees on diametrically opposite sides of said off-take pipe below said horizontal disc and extending from said off-take pipe in a curved path tangent to said off-take pipe to a position adjacent to said cylindrical squeegee wall, a pair of brushes in the space within said cylindrical



squeegee wall on opposite sides of said transverse squeegees to brush on a surface to be cleaned, and supporting springs between said horizontal disc and said brushes and transverse squeegees whereby said casing and said horizontal disc are spring supported on said brushes and said transverse squeegees to permit tilting of said casing and said horizontal disc relative to the surface on which said brushes and said transverse squeegees are supported.

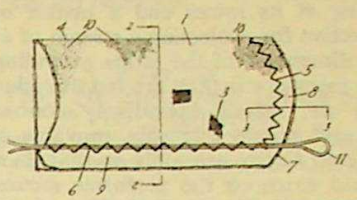
2,999,259
COMBINATION DUST PAN AND BRUSH
Sheldon Polner, 3076 36th St., Astoria, N.Y.
Filed Feb. 19, 1960, Ser. No. 9,907
3 Claims. (Cl. 15—104.8)



3. A dustpan assembly, comprising a generally rectangular pan having a flat top, bottom, sides and rear and with an open front, a brush retractably mounted at said open front and normally extending forwardly thereof, a handle mounted on the pan, means operatively connecting said handle and brush for retracting the brush into the pan and extending the brush therefrom, said means including a finger grip, said handle including a hand grip, and spring means biasing the finger and hand grips apart, whereby the brush is retracted into the pan when the finger and hand grips are squeezed together, there being a scraper bar disposed on said bottom of the pan near the open front for scraping debris from the brush and for retaining the debris in the pan.

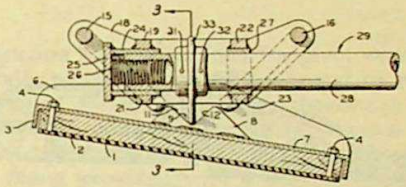
2,999,260
TOOTH CLEANING DEVICE
Helen R. King, 1033 Wilshire Blvd., Kalamazoo, Mich.
Filed Oct. 5, 1959, Ser. No. 844,351
2 Claims. (Cl. 15—118)

2. A tooth cleaning device comprising a body member open at one end to receive a finger of the user, said body member being formed of a section of loosely woven fabric lappingly folded upon itself, the lapping sections of the folded fabric being transversely stitched across one end thereof constituting the outer end of the body member and along the side edge thereof opposed to the fold of the fabric and spaced therefrom to receive a finger, and a strand of dental floss folded upon itself to



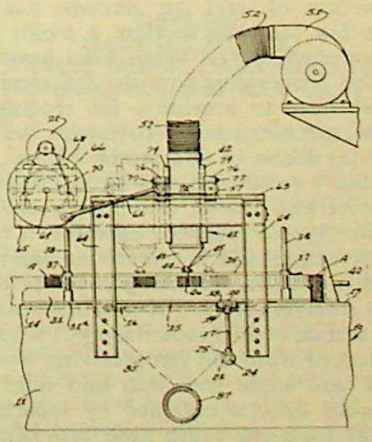
provide a loop, the strand being removably secured to the body by the said stitching extending longitudinally of the body member and being positioned with the looped end thereof projecting beyond the outer end of the body member for grasping.

2,999,261
BULL FLOAT
Sidney D. Lapham, R.F.D. 2, Box 316, Martinez, Calif.
Filed Oct. 10, 1955, Ser. No. 539,310
3 Claims. (Cl. 15—235.8)



1. A bull float comprising: a shoe and rocker interconnected by a pair of spaced upwardly diverging links; a handle threadedly connected to said rocker transversely of said shoe; an upwardly extending web fixed to said shoe in the vertical plane of said handle, said web being formed with a V-shaped cam follower track; and a circular cam follower mounted on said handle eccentrically thereof and for rotation within the confines of said notch.

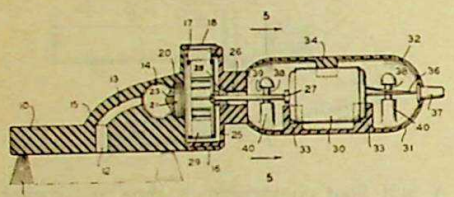
2,999,262
APPARATUS FOR CLEANING CORRUGATED PARTITION STRIPS
Mervyn M. Jenkins and Jay R. Macy, Waco, Tex., assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Apr. 15, 1958, Ser. No. 728,644
11 Claims. (Cl. 15—307)



1. In combination, a horizontal table surface having end sections and a perforate intermediate section, side

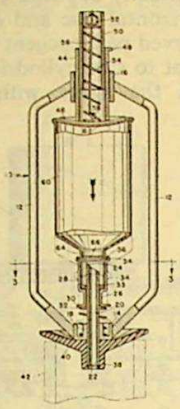
guide members disposed parallel and longitudinally of said table surface and spaced apart laterally thereon to receive and guide sawed and slotted corrugated strips being delivered to said table, means for moving said strips upright on edge in side-by-side relationship and through said parallel side guide members, an upright air nozzle assembly defining at its lower end a nozzle opening having a span effective for projecting a stream of air downwardly along the dimension of the strips extending between said side guide members as they are fed therethrough, a source of forced air, means operatively connecting said air source to said nozzle assembly, movable carriage means mounting said nozzle assembly so that its nozzle opening overlies said strips on the perforate section of the table surface, said carriage means being adapted for reciprocating movement, and power means operatively connected to reciprocate said carriage means parallel to the table surface for moving the nozzle assembly in oscillating fashion, thereby directing the forced air across surfaces of the underlying strips for cleaning them of loose particles.

2,999,263
VACUUM DANDRUFF HAIR BRUSH
John Raymond Smith, Box 481, Rockingham, N.C.
Filed Aug. 10, 1959, Ser. No. 832,761
1 Claim. (Cl. 15—344)



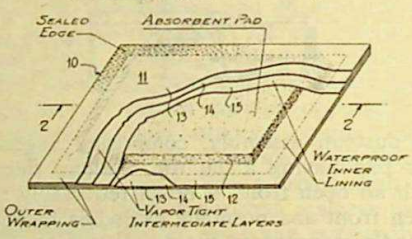
A combination hair brush and dandruff removing vacuum device comprising a brush head having bristles around a major portion of the periphery thereof, said brush head being provided with an enlarged fan receiving section, said brush head being provided with an air passageway from the surface supporting said bristles within the periphery of said bristles and extending to said enlarged fan receiving section, said brush head being provided with an enlarged transverse passage in communication with said air passage and extending to the exterior of said brush head, said transverse passage being closed at one end, means to selectively open and close the other end of said transverse passage, said air passage being appreciably enlarged from said transverse passage to said fan receiving section and being provided with a filter receiving seat, a filter removably mounted on said filter receiving seat in said enlarged portion of said air passage and removable through the fan receiving section, a motor support detachably connected to said brush head having a fan receiving section cooperating with the fan receiving section of said brush head to provide a fan receiving chamber therebetween, a motor, means to mount the motor in a motor receiving recess in said motor support, said motor support having a removable section to provide access to the motor receiving recess, said motor having a shaft extending into the fan receiving chamber, a fan mounted on said shaft within said fan receiving chamber, an air outlet means in said fan receiving chamber through said enlarged fan receiving section of said brush head and said cooperating section of said motor support whereby filtered air will be forced from the fan receiving chamber drawing dandruff and loose hair into said filter and ready cleaning thereof can be obtained by separation of the motor support from the brush head providing for ready removal of the filter element and providing for complete cleaning through the transverse passage.

2,999,264
MEANS FOR UNBLOCKING PIPES
Donald J. Stearns, 33 E. I St., Chula Vista, Calif.
Filed Apr. 4, 1960, Ser. No. 19,875
5 Claims. (Cl. 15—406)



1. Means for unblocking pipes, comprising: a rigid frame having a gas conducting spout at one end thereof and a pipe-engaging sealing member on said spout; a cup member axially slidably mounted on said spout; a manually operable plunger assembly mounted at the other end of said frame for sliding movement coaxially of said cup member; a rupturable, non-shattering container of pressurized gas; said plunger assembly having a pressure pad resiliently biased to engage said container and hold the same between said pressure pad and said cup member; said spout having a bayonet point adjacent to said cup and extending toward said plunger assembly to pierce said container when said plunger assembly is moved toward said bayonet point.

2,999,265
SATURATED PAD FOR CLEANSING AND DEODORIZING
Jerome J. Duane, Westport, Conn., and Dorothy B. Tarnoff, New York, N.Y., assignors, by mesne assignments, to Dorothy B. Tarnoff, New York, N.Y.
Filed Sept. 23, 1957, Ser. No. 685,601
4 Claims. (Cl. 15—506)

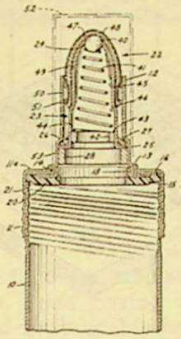


1. A cleansing and deodorizing product for cleansing and deodorizing the female pelvic region comprising a readily disposable fibrous pad saturated with a liquid composition having a pH of from 5 to 6.5, said composition containing at least 86% by weight of water, from 0.1% to 2% by weight of a bacteriostatic agent and from 0.05% to 2% by weight of a surface active agent which will not inactivate the bacteriostatic agent and which composition, when applied to the female pelvic region, is not injurious thereto and will not leave any deposits thereon.

2,999,266
MARKING DEVICES
Sidney N. Rosenthal, Belle Harbor, N.Y., assignor to Speedry Chemical Products, Inc., Richmond Hill, N.Y.
Filed Aug. 19, 1959, Ser. No. 834,774
3 Claims. (Cl. 15—566)

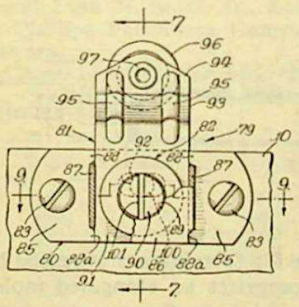
1. A marking device comprising an ink container having a threaded open end portion, a screw cap releasably

engaging said threaded end and having an end wall provided with a central opening, a tubular housing open at its free outer end and mounted with an inner end portion engaged in said opening in the end wall of the cap, a tubular spout coaxially arranged in the housing and having an annular shoulder formed between an inner end portion which is of relatively greater diameter and an outer end portion which is of relatively reduced diameter and has a rounded converging tip extending through and outwardly beyond the outer end of said housing, said



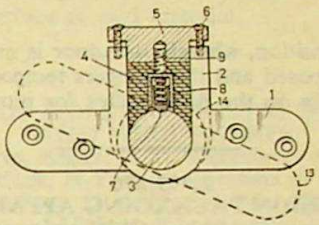
spout having a valve controlled ink feeding opening through its rounded tip end, and a flexible porous applicator having a marking portion extending across said ink feeding opening and said valve and having skirt portions embracing said outer reduced end portion of the spout, a retaining ring encircling said skirt and slidably engaging opposed inner surface portions of said housing, and being arranged and adapted to releasably retain the inner annular edge portion of said skirt opposite said shoulder of the spout.

2,999,267
SLIDING DOOR HANGER ASSEMBLY
John G. Sterling, Crystal Lake, Ill., and George L. Dornbreck, Burlington, Wis., assignors to John Sterling Corporation, Richmond, Ill., a corporation of Illinois
Filed Aug. 7, 1959, Ser. No. 832,307
6 Claims. (Cl. 16—105)



1. In a hanger assembly adapted to support a door for movement along an overhead track, a mounting bracket having a platform portion and flange means offset therefrom whereby the same is adapted to be mounted to one face of the door with its said platform portion spaced outwardly of said face; a hanger bracket supporting track-engaging roller means and comprising a body portion disposed in the spacing between said platform portion and one door face and guided for rectilinear sliding movement parallel to the latter, adjustment means journalled for rotation between adjacent opposed faces of said body and platform portions, means providing driving connection of said adjustment means with said hanger bracket and arranged to rectilinearly drive the latter in response to rotation of said adjustment means, means for rotating said adjustment means, and locking means selectively operable to effect relative movement of said body and platform portions to pinch said adjustment means between the said opposed faces thereof whereby said adjustment means and said hanger bracket are locked in selected positions.

2,999,268
FRICTION HINGE, ESPECIALLY FOR PIVOT WINDOWS
Einar Strandengen, Haugenstua (Grorud), Oslo, Norway, assignor to A/S Grorud Jernvarefabrik, Grorud, Oslo, Norway
Filed Aug. 25, 1959, Ser. No. 835,944
Claims priority, application Norway Sept. 1, 1958
4 Claims. (Cl. 16—141)

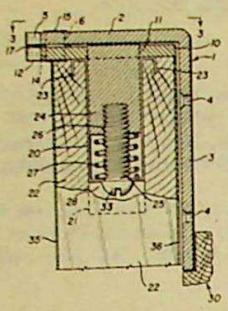


1. A friction hinge, especially for pivot windows which are pivotally mounted about a horizontal or vertical axis which extends preferably through the centre of gravity of the window, comprising a sash fitting, a cylindrical pivot pin secured to and projecting from the sash fitting, a frame fitting provided with a bearing housing for the pivot pin, said bearing housing including means secured to the frame fitting defining a U-shaped recess the bottom of which is semi-cylindrical and constitutes one bearing half engaging the pivot pin, a second bearing half comprising a friction block which is accommodated in the recess and is provided with a semi-cylindrical surface corresponding to and engaging the surface of the pivot pin, the friction block having straight sides slidably engaging the straight sides of the U-shaped recess and being supported and guided by the straight sides of the recess, a press block accommodated in the U-shaped recess on the side of the friction block opposite the pin for pressing the friction block against the cylindrical surface of the pin, and means for securing the press block to the bearing half having the U-shaped recess and for forcing the press block against the friction block and the latter in turn into frictional engagement with the pivot pin.

2,999,269
CABINET HINGE
Raymond Meilinger, Denver, Colo., assignor to Meilinger Fixtures Company, Inc., Denver, Colo., a corporation of Colorado
Filed Apr. 28, 1958, Ser. No. 731,442
3 Claims. (Cl. 16—149)

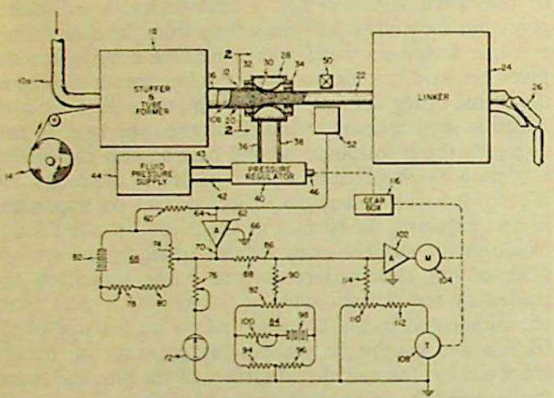
1. In a cabinet assembly including a cabinet body and a door arranged for selective mounting with either face exposed, the combination which comprises a set of door supporting hinges mounted to permit opening the door along a single edge regardless of which door face is out, each hinge set including an angle member mounted by means of one leg on opposite sides of a door opening on the cabinet assembly in position to receive a door therebetween, the other leg of each of said angle extending outwardly from the cabinet frame on which said first leg is attached, a pivot plate pivotally secured to each said other leg and each being pivotal through a substantial arc, there being a non-circular opening in each said plate, a plunger assembly mounted in opposite edges of the door adjacent

an edge, a plunger in each assembly extending beyond the door edge in which it is mounted, each plunger having a periphery of registering shape with the opening in each said plate, and spring means maintaining each said plunger



in extended position, whereby the door is mountable with either face exposed and the plungers temporarily support the door rigidly on the pivot plates for movement therewith.

2,999,270
EXTRUSION PACKAGING APPARATUS
Robert A. Knapp, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Sept. 29, 1958, Ser. No. 763,949
14 Claims. (Cl. 17—35)

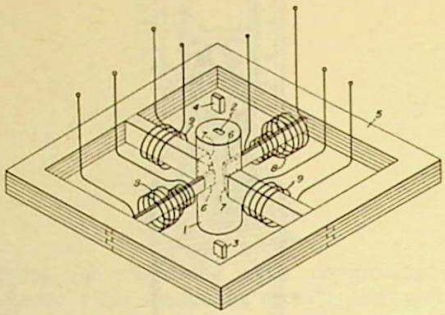


1. An apparatus for producing sausages comprising a hollow tube through which sausage meat is extruded into a sausage casing mounted on said tube and being drawn thereoff by meat extruded from said tube to form a sausage, means for controlling the diameter of said sausage, a radiation source and detector mounted adjacent said diameter controlling means, and control means controlled by said detector and varying said diameter controlling means to maintain the weight per unit length of said sausage substantially constant.

2,999,271
MAGNETIC MATERIAL
Richard B. Falk, Greenville, Gerald L. Hatinger, Edmore, and George D. Hooper, Greenville, Mich., assignors to General Electric Company, a corporation of New York
Filed Aug. 30, 1960, Ser. No. 52,796
7 Claims. (Cl. 18—16.5)

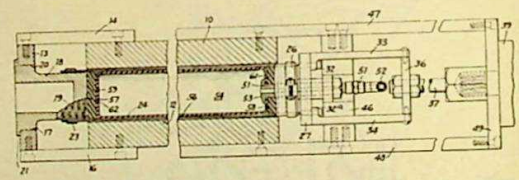
1. A process for orienting and compacting fine particle magnetic powder whose properties are derived from shape anisotropy, said process comprising simultaneously applying an alternating and direct current field to a quantity of said powder and compacting said powder while said direct current field remains energized to form a compacted and highly oriented magnet structure.

5. A process for orienting and compacting fine particle magnetic powder whose properties are derived from shape anisotropy, said process comprising simultaneously applying an alternating and direct current field to a charge of said powder contained in a die cavity, said direct current field being at least 1400 gauss and said direct current field being greater than said alternating current field,



the bottom of said charge in said die cavity being from about 0.10 to about 0.385 inch below the bottom of the poles supplying said direct current field, the poles for supplying said direct and alternating current fields being at least twice the height of the powder charge, and compacting said powder while said direct current field remains energized to form a compacted magnet structure possessing a high degree of orientation in the direction of the direct current field.

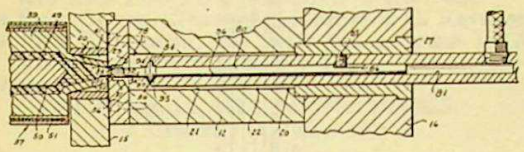
2,999,272
MACHINE FOR FORMING PRE-STRESSED HOLLOW ARTICLES
Elmer P. Warnken, Cincinnati, Ohio, assignor, by mesne assignments, to Studebaker-Packard Corporation, South Bend, Ind., a corporation of Michigan
Original application Oct. 9, 1957, Ser. No. 689,144. Divided and this application May 9, 1958, Ser. No. 734,238
2 Claims. (Cl. 18—19)



1. A machine for forming a prestressed hollow, tubular article which comprises an elongated mold body having an elongated mold bore therein, an elongated bladder inside the mold body, the outer diameter of the bladder being less than the interior diameter of the mold bore to form an annular space between the bladder and the mold bore for receiving a tubular, laminated, resin-impregnated preform with end portions of the preform projecting from opposite ends of the mold bore, clamp means for engaging the opposite end portions of the preform throughout the circumference thereof, means for moving at least one of the clamp means in a direction axially of the mold bore and of the preform to stress the walls of the preform in tension throughout the circumference thereof, means for injecting hydraulic fluid into the bladder to cause the wall of the bladder to engage the inner wall of the preform and urge the wall of the preform into engagement with the wall of the mold bore,

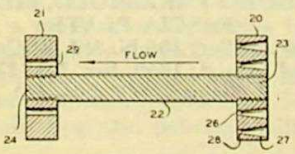
and means for heating the mold body to set the resin of the preform while the preform is prestressed both lengthwise and circumferentially.

2,999,273
APPARATUS FOR MOLDING HOLLOW PLASTIC ARTICLES
Erich Gronemeyer, Pompton Plains, and Samuel Cherba, Totowa, N.J., assignors to Peerless Tube Company, Bloomfield, N.J., a corporation of New Jersey
Filed Mar. 2, 1955, Ser. No. 491,727
6 Claims. (Cl. 18—30)



1. Apparatus for forming tubular plastic containers, which comprises: a mold having an elongated cavity therein, an elongated reciprocable core positioned in the mold cavity, said core having a diameter less than that of the mold cavity and, with the mold cavity, forming a container sidewall-defining space, the core having a free end located adjacent a first end of the mold cavity, the core being partially retractable to produce a charge-receiving space in the mold communicating with the sidewall-defining space, a passage in the first end of the mold centrally confronting the free end of the core, the core having a central pin on its free end which closes the passage when the core is advanced into the mold and provides an opening through the passage when the core is partially retracted, and means for alternatly partially retracting the core from the mold and for advancing the core into the mold to close the passage and to compress the charge of plastic material in the charge-receiving space to force such plastic material to flow into the container sidewall-defining space.

2,999,274
DISPERSING SOLID ADDITIVES IN PLASTICS
Cecil J. Silas and John N. Scott, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 14, 1958, Ser. No. 728,214
5 Claims. (Cl. 18—30)

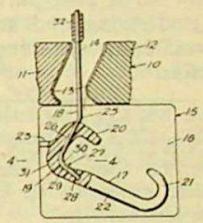


1. An improved dispersion plug suitable for use in the nozzle of an injection molding machine to disperse pigment in a resinous thermoplastic polymer comprising a first perforated disk to be positioned upstream in said nozzle, said first disk containing a plurality of holes having a diameter of from 0.010 to 0.025 inch, each of said holes having an enlarged opening countersunk in one face of said first disk, a second perforated disk to be positioned downstream of said first disk in said nozzle, said second disk containing a plurality of holes having a diameter greater than the diameter of the holes in said first disk and in the range of 0.020 to 0.060 inch with a land length of from 0.1 to 0.5 inch, and a rod axially joining said first and second disks and spacing said disks apart.

2,999,275
MECHANICAL ORIENTATION OF MAGNETICALLY ANISOTROPIC PARTICLES
Walter S. Blume, Jr., Cincinnati, Ohio, assignor to Leyman Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed July 15, 1958, Ser. No. 748,705
7 Claims. (Cl. 18—55)

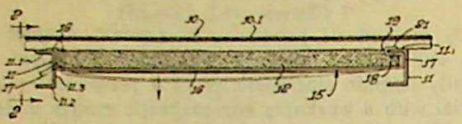
1. A method of producing permanent magnet material, said method comprising, mixing anisotropic, substantially domain size particles of a permanent magnet material with a workable non-magnetic matrix material, and milling the resulting mixture between rolls into elongated form, whereby the preferred magnetic axes of said particles are aligned substantially perpendicularly to the surface of said elongated form, said permanent magnet material being adapted to be magnetized to form an anisotropic permanent magnet by applying to said material a magnetizing field which is directed perpendicularly to the surface of said material.

2,999,276
METHOD OF MOLDING PLASTIC TRAVELERS WITH WIRE INSERTS
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 11, 1957, Ser. No. 683,253
1 Claim. (Cl. 18—59)



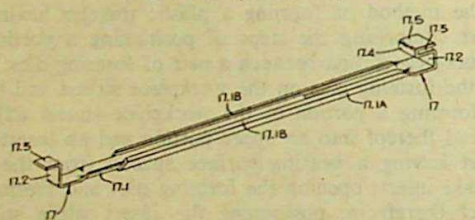
The method of forming a plastic traveler having an insert comprising the steps of positioning a portion of a workpiece strand between a pair of forming dies; closing the forming dies on the workpiece strand and thereby forming a portion of the workpiece strand adjacent an end thereof into an upper portion and an insert, said insert having a bearing surface spaced from the ends of said insert; opening the forming dies and freeing the insert therefrom; positioning the insert while still attached to the workpiece strand within a die cavity formed by a plurality of relatively movable casting dies by clamping the upper portion immovably between relatively movable portions of the casting dies, the insert extending into the die cavity in cantilever fashion with a free end and with the bearing surface contacting a support surface on a die and with the insert free to flex away from the support surface; injecting liquid plastic material under pressure into the die cavity through a sprue opening; directing the pressure of the entering plastic material against the insert to force the bearing surface into firm contact with the support surface during the injecting step whereby the bearing surface is shielded from contact with the liquid plastic; and directing the liquid plastic flow adjacent the free end of the insert substantially along the insert toward and past the free end to prevent lifting of the free end by the plastic and consequent disengagement of the bearing surface from the supporting surface; hardening the liquid plastic material to form a traveler; opening the casting dies; severing the insert from the upper portion; and forming the upper portion and the adjacent portions of the workpiece strand into an insert between the forming dies preparatory to the formation of another traveler.

2,999,277
INSULATION MOUNTING
William H. Spencer, La Canada, and James D. Brown, Los Angeles, Calif., assignors to Ultra-Tach Co., Los Angeles, Calif., a partnership
Filed Aug. 6, 1956, Ser. No. 602,689
14 Claims. (Cl. 20—4)



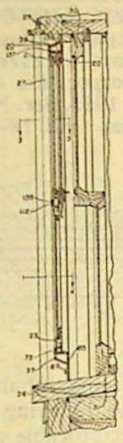
1. In a previously erected building of the type having a covering structure including spaced parallel channel-shaped purlins underlying and supporting a covering layer and having the flanges thereof extending in the same direction, that improvement for supporting a layer of relatively thin lightweight sheet material on the interior side of said covering structure, which improvement comprises; a plurality of elongated, thin, narrow, metal strips each having at its opposite ends an upwardly and outwardly extending L-shaped terminal end and an S-shaped terminal end projecting from the same face side of said strip, said brackets having a length spanning the distance between adjacent purlins with one leg of said L-shaped end resting on the upper flange of one purlin and with the upper one of the U-shaped portions of said S-shaped terminal end opening outwardly and embracing the upper flange of the other adjacent purlin, said brackets being spaced apart lengthwise of said purlins and cooperable with one another underlying and supporting panels of lightweight sheet material spanning the distance between adjacent purlins.

2,999,278
INSULATION MOUNTING
William H. Spencer, La Canada, and James D. Brown, Los Angeles, Calif., assignors to Ultra-Tach Co., Los Angeles, Calif., a partnership
Continuation of application Ser. No. 531,220, Aug. 29, 1955. This application Jan. 21, 1959, Ser. No. 788,235
9 Claims. (Cl. 20—4)



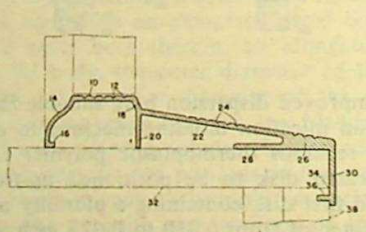
5. An article of manufacture comprising a bracket suitable for supporting sheet insulating material between a series of channel-shaped purlins having the web portions thereof in parallel vertical planes and their flanges projecting in the same direction from the upper and lower edges of said web of each purlin, said bracket comprising a plurality of elongated members slidably assembled in the telescopic relation and having wide flat ends, one of said bracket ends being L-shaped with one leg extending vertically to lie along the exterior side of one of said purlin webs and the other leg of said L-shaped end being adapted to rest on top of the same purlin flange, the other of said bracket ends terminating in a U-shaped portion adapted to clip over the free edge of the flange of a second purlin to thereby support the main body of said bracket from a pair of spaced purlins and providing a rigid underlying support for a sheet of insulating material, one of said elongated members being generally V-shaped in cross-section with the edges of the V-legs turned inwardly toward one another, a second one of said elongated members being V-shaped in cross-section and of such size as to be slidable within the V-shaped channel of said first-mentioned member and held against lateral displacement therefrom by the inturned edges thereof.

2,999,279
WINDOW STRUCTURE
Paul H. Lauer, Cuyahoga Falls, Ohio, assignor to The Falako Corporation
Filed July 22, 1957, Ser. No. 673,350
5 Claims. (Cl. 20—52)



2. A window frame structure comprising opposed side members and first and second panel members, said opposed side members having flanges extending therefrom, said first and second panel members being in sliding engagement with each other and each having first and second legs, each said side member having first and second tracks separated by wall means defining a recessed portion, a spring member secured to each side member and each having a base portion and first and second leaves, said base portions residing in said respective recessed portions with said first leaf of each spring member engaging said first legs of said first panel to hold same against said flange, said second leaf of each spring member engaging said first legs of said second panel to hold same against said first panel, said first legs of said first panel member engaging said first tracks of said opposed side members for sliding engagement therewith, said second legs of said first panel member overlying said recessed portion, said first legs of said second panel member overlying said recessed portion, and said second legs of said second panel member engaging said second tracks of said opposed side members for sliding engagement therewith.

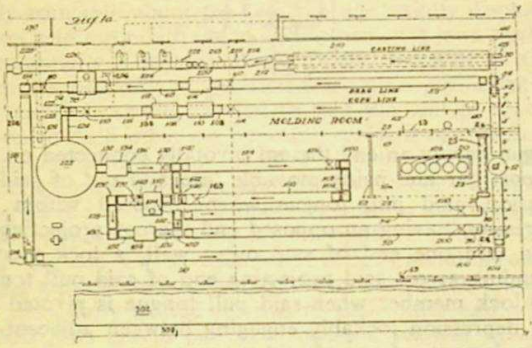
2,999,280
EXTRUDED THRESHOLD, SILL AND FASCIA PLATE
Wallace W. Miller, 205 N. 3rd, El Cajon, Calif.
Filed May 9, 1960, Ser. No. 27,910
2 Claims. (Cl. 20—64)



1. A unitary threshold-sill-fascia structural unit adapted to be formed by the process of extrusion, said unitary structural unit comprising a pair of spaced longitudinally extended legs, the innermost leg having a short flange adapted for placement on a sub-sill, a substantially horizontal plate unitary with and extending between the top of said legs and defining an elevated threshold, a sill

unitary with and sloping downwardly and outwardly from said threshold, a sill rest unitary with said sill and remote from said threshold, and a fascia plate unitary with said sill rest and depending vertically downwardly therefrom a distance substantially equal to the transverse dimension of said threshold to mask and protect the sub-sill to a depth equal to said transverse dimension, and a lip flange extending inwardly from said fascia plate adjacent the lower end thereof, said lip flange being adapted to be buried in the front facing of a building below the sub-sill.

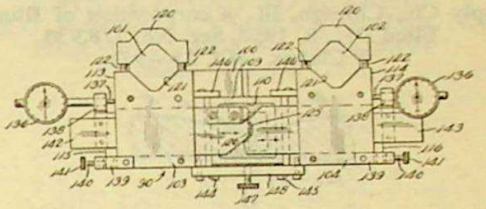
2,999,281
APPARATUS FOR MAKING CASTINGS
James Ross Drever, Geneva, and Edward C. Kavanaugh and John E. Bossong, Oak Park, Ill., assignors to Griffin Wheel Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 14, 1958, Ser. No. 755,065
2 Claims. (Cl. 22—64)



1. In an arrangement for continuously producing metal castings by forcing molten metal into permanent molds each comprising cope and drag mold sections and a pouring tube through which the metal is forced under pressure into the mold, the combination of: a pouring station for producing the castings; an open conveyor circuit for transporting castings from the pouring station through a plurality of casting processing stations; a closed conveyor circuit for transporting the drag sections from the pouring station through a plurality of drag processing stations and back to the pouring station; another closed conveyor circuit for transporting the cope sections from the pouring station through a plurality of cope processing stations and back to the pouring station; said pouring station being disposed in a generally straight conveyor line which forms a common part of all three previously mentioned circuits; a pouring tube preheat station adjacent the conveyor line and in close proximity to the pouring station; a mold assembly station in said straight conveyor line immediately preceding the pouring station; means for transferring preheated tubes to said pouring station; and a mold disassembly station in said straight conveyor line following said pouring station.

2,999,282
APPARATUS TO CENTER ARTICLES IN A MATRIX
Martin A. Herman, 11606 Edgewater Drive, Cleveland, Ohio
Filed Mar. 18, 1960, Ser. No. 16,013
9 Claims. (Cl. 22—116)

1. Apparatus for centering articles in a matrix comprising a frame having a pair of spaced uprights thereon, upper and lower support means operatively carried by each of said uprights in vertically spaced horizontally aligned and spaced relation, a matrix mold with a vertically open mold cavity therein fixedly and operatively secured to and extending between said uprights to be positioned thereby, cooling means operatively associated with said matrix mold, a template slidably carried by each of said support means and extending both laterally inwardly and outwardly therefrom, the adjacent laterally inner edges of said templates being contoured to engage a test article, means operatively carried by one of said templates to position a test article accurately thereon to extend into said mold cavity, the laterally outer surfaces of said support means being gaging surfaces in the apparatus and said templates having laterally outer gaging surfaces thereon, adjustable means operatively connecting each

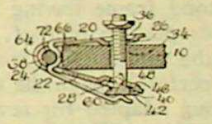


of said templates to its said support means to position its laterally inner face accurately with relation to a reference on a test article positioned by one of said templates whereby a test article can be accurately located in said mold cavity and matrix material can be poured into said mold cavity to embed a test article therein, and individual gage means connected between said templates and said support means to enable said templates to be set in accurate balanced relation to said mold cavity.

2,999,283
BINDER COMPOSITIONS
Bruce Paul Barth, Piscataway Township, Middlesex County, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 1, 1958, Ser. No. 764,511
9 Claims. (Cl. 22—193)

1. An inorganic particulate material coated with a coating composition comprising 10 to 300 parts by weight of a water-soluble carbohydrate and 100 parts by weight of 2, 4, 6 trimethylolphenol.

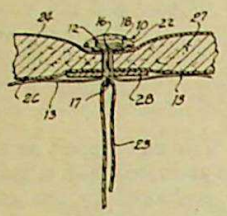
2,999,284
ALIGNING GAUGE FOR FLEXIBLE HINGED FASTENERS
Frank Ellsworth McComb, Oak Park, Ill., assignor to Flexible Steel Lacing Company, a corporation of Illinois
Filed Oct. 8, 1959, Ser. No. 845,236
3 Claims. (Cl. 24—33)



1. A clip for use in attaching to the end of a belt a fastener incorporating a pair of flaring arms which are interconnected by a series of loops adapted for engagement with a hinge pin and which have aligned apertures for receiving a bolt having means engageable with cooperating means associated with the aperture in one of the arms to prevent rotation of the bolt relative to the fastener, whereby when the bolt is passed through the apertures in the arms and through an opening in the belt, a nut can be threadedly engaged with the bolt to tightly clamp the arms to the opposed faces of the belt, said clip comprising a substantially U-shaped plate having a resilient, arched base section and a pair of arms flaring from said base section at an angle corresponding generally to the flare of the arms of the fastener, one of said arms extending from said arched base section for a greater distance than the other of said arms, whereby the resilient characteristic of said base section affords snap-on assembly of said clip to the fastener and affords engagement of said one arm with the head of the bolt so as to

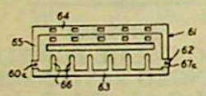
initially engage the rotation-preventing co-operating means of the bolt and the aperture in the one arm of the fastener.

2,999,285
UPHOLSTERY BUTTON CONSTRUCTION
Lawrence L. Morton, Wheaton, and William H. Decker and Leslie H. Bennett, Chicago, Ill., assignors of one-half to Kroehler Mfg. Co., Naperville, Ill., a corporation of Illinois, and one-half to Maxant Button & Supply Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 8, 1958, Ser. No. 778,930
5 Claims. (Cl. 24—94)



1. An upholstery button construction comprising a head portion including a collet having a central opening, a pair of deformable prongs having integral lateral ears which are joined together engaging said collet, and an eye member having lateral ears engaging said collet, said prongs and eye member being substantially contiguous to each other and disposed substantially centrally of said collet, said eye member and prongs extending through said opening, said eye member affording means for attachment of a cord thereto for applying tension on said head portion.

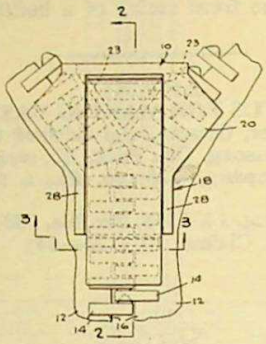
2,999,286
BUCKLE
Lucille Norman, 4 E. 82nd St., New York 17, N.Y.
Filed May 21, 1958, Ser. No. 736,868
3 Claims. (Cl. 24—171)



1. A buckle for attaching two pieces of fabric comprising a pair of frames, the first of said frames having a through recess therein, the second frame being movable in an out of closed position within the recess in the first frame, the second frame having a laterally extending slot in the upper portion thereof, and a plurality of perforations above the slot, the first frame being provided with a plurality of perforations in the upper part thereof, the perforations being adapted for sewing the frames to one of said pieces of fabric, both of said frames having a plurality of projections in the lower portions thereof, said projections on said frames adapted to mesh in the closed position of the frames, and said meshing projections being adapted to clamp therebetween a second piece of fabric which has first been passed through the laterally extending opening in the second frame, whereby the clamping of the fabric between the meshing projections of the two frames force the upper portion of the second frame against the upper part of the through recess of the first frame to lock the frames together.

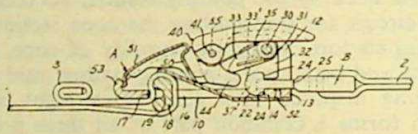
2,999,287
SLIDER FOR SLIDE FASTENERS
Donald E. Breithaupt, 1216 Camino Vega, Farmington, N. Mex.
Filed Jan. 29, 1960, Ser. No. 5,456
5 Claims. (Cl. 24—205.14)

1. A slide for a slide fastener comprising a body having inner and outer walls defining between them longitudinal guide channels extending along opposite sides thereof, said channels each being adapted to receive a stringer tape therethrough, said outer wall having a depression formed therein opening outwardly therefrom and outwardly of one end thereof, said outer wall having an opening extending transversely therethrough adjacent the other end thereof, a support bar disposed in the plane of said outer wall and traversing said opening, a pull



tongue having an end thereof pivotally connected on said support bar and being movable into and out of said depression, said pull tongue when disposed within said depression having an opposed end thereof projecting beyond said one end of said outer wall, a lock member extending across said projecting end of said pull tongue, said lock member when said pull tongue is pivoted into said depression lockably engaging between adjacent fastener elements of one of said stringer tapes.

2,999,288
BUCKLE ASSEMBLY
Alden Y. Warner, Farmington, Wilbur J. Craven, East Hartford, and John Stacherl, New Britain, Conn., assignors to The Capewell Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Filed Nov. 23, 1955, Ser. No. 548,706
5 Claims. (Cl. 24—230)

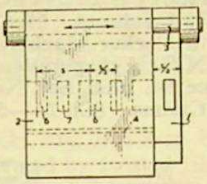


1. A buckle assembly comprising a channel-shaped frame having an inwardly facing transverse abutment and upstanding side portions, a separable fitting for attachment to a belt having a head at one end forming a pair of transverse shoulders facing oppositely to said transverse abutment of the frame, said fitting overlying a portion of the frame adjacent said transverse abutment in operative assembly with either shoulder of the head interengaged with the abutment of the frame to prevent longitudinal withdrawal of the fitting relative to the frame, a retainer member, pivot means on said side portions of the frame rotatably mounting said retainer member thereon for rotation about an axis extending transversely of the frame and spaced from and in alignment with said portion of the frame overlain by said fitting, said retainer member engaging the overlying portion of the fitting to prevent movement thereof in a direction normal to the frame and being rotatable into a non-obstructing position to permit insertion and withdrawal of the fitting, and means biasing said retainer member into fitting engaging position.

2,999,289
DEVICE FOR HOLDING OBJECTS MORE PARTICULARLY WELDING RODS

Jan Tenger, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 22, 1958, Ser. No. 730,083
Claims priority, application Germany May 4, 1957
4 Claims. (Cl. 24—248)

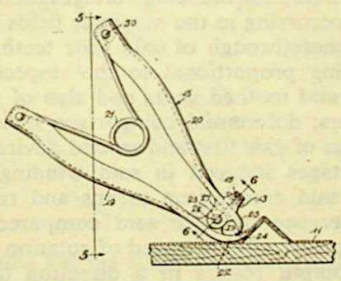


1. A device for holding a plurality of objects, comprising a pivot pin, a pair of jaws rotatably and slidably mounted on said pin in a manner whereby said jaws are axially rotatable about the said pin and axially displaceable on said pin relatively to each other, said jaws having a substantially elongated shape in the direction of said pin, and a plurality of permanent magnets positioned in substantial alignment parallel to said pin and in spaced relation to each other on opposing surfaces of said jaws, one of said jaws having magnets of both polarities in a manner whereby when the said jaws are in one axial position relative to each other opposing ends of said magnets on said opposing surfaces are of opposite polarity and attract the said jaws to each other thereby simultaneously holding said objects clamped between them when the said jaws are axially shifted relative to each other and when the said jaws are in one axial position relative to each other the opposing magnets are of the same polarity and repel the said jaws from each other thereby maintaining the said jaws separated.

2,999,290
CLAMPING DEVICE

Benjamin F. Giles, 11616 Main St., Middletown, Ky.

Filed July 9, 1957, Ser. No. 670,701
2 Claims. (Cl. 24—252)

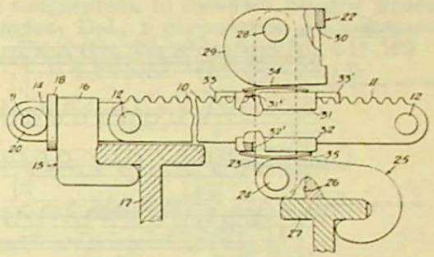


1. A heavy duty clamping device for securing a ladder on a metal roof comprising two elongated arms, means pivotally interconnecting said arms adjacent one end thereof to define a pair of long portions which act as handles and first and second short arcuate portions which continuously curve inwardly toward each other and act as beak-like interlocking jaw members to grip the marginal edges of closely overlapping sections of the metal roof, the first of said jaw members being wide and terminating in a flat beveled edge for slipping underneath the marginal edges of closely overlapping portions of the metal roof, said first jaw member having a concave face and a circular indentation defined therein spaced from said flat beveled edge and centrally spaced within the width of said first jaw member, said second jaw member being wide and tapering to a single point, said point of said second jaw member being received in the indentation defined in said first jaw member when said jaw members engage, said first jaw member extending beyond the point of engagement with said second jaw member as a flat beveled edge for raising a marginal edge of closely overlapping portions of the metal roof, and resilient means to bias said pair of long portions apart to force said short portions into said beak-like arrangement.

2,999,291
CLAMP WITH RELATIVELY ADJUSTABLE ARTICLE ENGAGING MEMBERS

Jack G. Imparato, 1121 82nd St., Brooklyn, N.Y.

Filed May 22, 1959, Ser. No. 815,067
8 Claims. (Cl. 24—263)

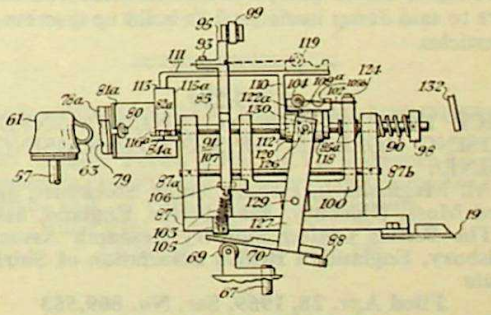


7. A clamp of the class described, comprising a pair of hook-shaped article engaging members, an elongated straight rack bar portion for adjustably spacing the members one from the other, a clamp unit comprising a rod, a pair of plates slidable on said rod, means movable on one end portion of the rod to move the plates into clamping engagement with said rack bar portion, one plate having means for keying the same to said rack bar portion, one of said members being pivoted to the other end portion of said rod, and means for supporting the other of said members on one end of said rack bar portion to control position thereof with respect to the first named member.

2,999,292
APPENDAGING MACHINE

Vincent P. Miller, Pittsburgh, Pa., assignor to Miller Pottery Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 8, 1959, Ser. No. 804,902
9 Claims. (Cl. 25—22)



1. In an appendage holding device the combination comprising a support, jaws arranged to be opened and closed carried by said support, means for reciprocating said support from an initial position to an extended position, a linkage member operatively connected to said jaws, means for moving said linkage member in accordance with the movement of said support to maintain said jaws in a closed position, means for moving said linkage member relative to said support to cause said jaws to be opened and closed at any position of said support, said linkage member having a pair of recesses separated by a raised portion formed thereon, a locking roller, means affixing said locking roller to said support, said roller arranged to ride from one of the said pair of recesses to the other of said pair as said linkage member is moved

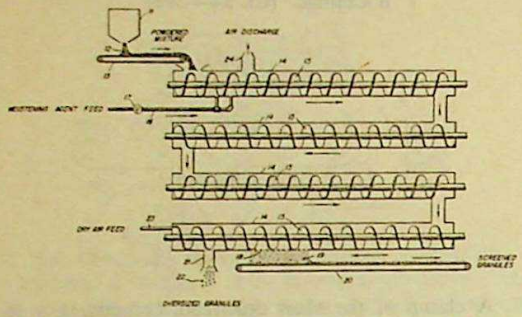
relative to said support whereby said linkage member is locked in position with respect to said support to maintain said jaws opened and closed.

2,999,293

PROCESS OF GRANULATING EFFERVESCENT MATERIALS

Albert Wesley Taff, Glen Burnie, and Joseph M. White and Robert E. Kolb, Baltimore, Md., assignors to Warner-Lambert Pharmaceutical Company

Filed Sept. 12, 1957, Ser. No. 683,450
9 Claims. (Cl. 25—156)



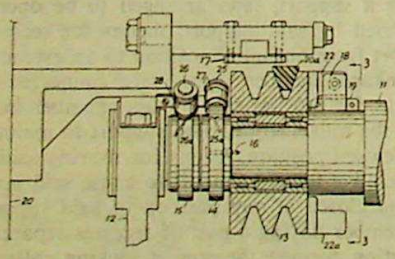
1. In a process for the production of an effervescent composition comprising preparing a powdered mixture which is reactive in aqueous solution to produce effervescence and forming said mixture into discrete granular particles, the improvement which comprises feeding said powdered mixture to an elongated treating zone in which it is conveyed while being subjected to a mixing, tumbling and cutting action, continuously adding water beneath the surface of said powdered mixture within said treating zone at a point adjacent to the point at which said powdered mixture is fed to said treating zone in an amount of about 1 to about 3 percent of the weight of said powdered mixture being fed per unit of time to dampen said powdered mixture locally and to cause a localized effervescent reaction to take place, further subjecting said locally reacted mixture to said mixing, tumbling and cutting action whereby the aggregations of dampened particles formed by said localized effervescent reaction are broken up into small dampened nuclei, and continuing the mixing and tumbling of the resulting mixture so as to cause the powdered mixture remaining to adhere to said damp nuclei and to build up discrete granular particles.

2,999,294

DEVICE FOR MEASURING ENERGY INPUT TO RAISING ROLLERS OF TEXTILE RAISING MACHINES

John M. Magarshack, Heaton Moor, Stockport, and Edward Moss, Didsbury, Manchester, England, assignors to The British Cotton Industry Research Association, Didsbury, England, a British association of Shirley Institute

Filed Apr. 28, 1959, Ser. No. 809,553
4 Claims. (Cl. 26—33)



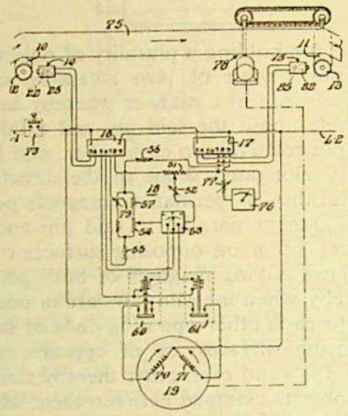
1. In a nap raising machine, a series of nap raising rollers, a dynamometer associated with one of said series of rollers at one end of the latter, said dynamometer comprising a drive transmission which includes a driving pulley and deflectable means interposed between said pulley and said roller, said deflectable means being subject to a deflection whose magnitude is in direct proportion to the energy being transmitted to the roller, and means for indicating the magnitude of said deflection.

2,999,295

FABRIC STRETCH CONTROL DEVICE

George Manning and John A. McCoig, Sr., Gastonia, N.C., assignors to Cocker Machine & Foundry Company, Gastonia, N.C., a corporation of North Carolina

Filed June 14, 1960, Ser. No. 35,972
4 Claims. (Cl. 26—54)



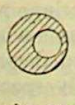
1. Apparatus for controlling the stretch of a fabric and the like between the input and output rollers of a processing machine, said apparatus comprising; first and second toothed gears at least the teeth of which are of metal of relatively high magnetic permeability, said gears being mounted for rotation with said input and output rollers, respectively; first and second magnetic devices mounted adjacent to the teeth of said first and second gears, respectively, for establishing respectively first and second magnetic fields in the path of rotation of the teeth of said first and second gears, each of said magnetic devices including a winding for inducing voltages therein in response to changes occurring in the magnetic fields resulting from movement therethrough of said gear teeth, said induced voltages being proportional to the respective speeds of rotation of said toothed gears and also of said input and output rollers; differential comparison means coupled to said windings of said first and second devices for comparing the voltages induced in said windings; and means coupled to said comparison means and responsive to a voltage difference between said compared voltages for altering automatically the speed of rotation of one of said input and output rollers in a direction to reduce said voltage difference.

2,999,296

NOVEL FILAMENTS AND FABRICS

Alvin L. Breen, West Chester, and Georges Pamm, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 25, 1957, Ser. No. 648,421
8 Claims. (Cl. 28—78)

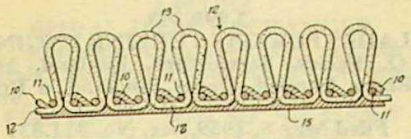


6. A pill-resistant fabric containing polyester textile staple fibers, said fibers having a continuous void throughout their length and said polyester having the ester linkages in the polymer chain.

2,999,297
BACKINGS FOR TUFTED FABRICS

Harold A. Schwartz, Norwalk, Conn., assignor to Patchogue-Plymouth Corporation, a corporation of New York

Filed Dec. 19, 1955, Ser. No. 553,763
5 Claims. (Cl. 28—80)

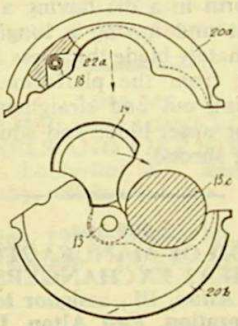


1. In a tufted pile rug, a woven backing comprising warp threads constituted by twisted ribbons of paper and filler threads also constituted by twisted ribbons of paper, said filler and warp threads being interwoven to worm a loose open weave having well-defined interstices, at least the filler threads being coated with a lubricant to enhance the slippage thereof whereby in lubrication looping needles may pass through said interstices without excessive friction, yarns tufted through said backing to form pile loops above said backing and connecting loops beneath said backing, and a film-like coating of adhesive material formed on the undersurface of said backing to bond said connecting loops thereto, said adhesive material being compatible with said lubricant.

2,999,298
APPARATUS FOR FORGING A CRANKSHAFT OR SIMILARLY SHAPED PART

Paul de Framond, St. Martin-en-Coailleux, France, assignor to Compagnie des Ateliers et Forges de la Loire (St. Chamond, Firminy, St. Etienne, Jacob-Holtzer), Paris, France

Filed June 25, 1959, Ser. No. 822,801
Claims priority, application France Feb. 9, 1959
6 Claims. (Cl. 29—6)

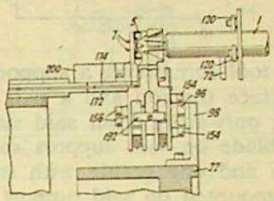


1. In apparatus for the forging of crankshaft-like elongated metal parts having a plurality of axially spaced, radially offset and angularly displaced crankpin sections separated by transverse webs, from an elongated blank having a plurality of crankpin blank sections corresponding in positions to said crankpins and separated by enlargements corresponding in position to said webs, said apparatus comprising transversely displaceable forging means for exerting transverse forging pressure upon each one in turn of said crankpin blank sections being forged and axially displaceable means for supporting said blank in a predetermined angular position and for exerting an axial forging pressure component thereon during the forging of each of the said crankpin sections, which axially displaceable means comprise a first means at one side of said forging means for cradling a crankpin blank section of said blank on one side from said crankpin being forged and a second means at the other side of said forging means for cradling a previously forged crankpin on the other side from said crankpin being forged, that improvement wherein said second cradling means has at least two angularly displaced and overlapping recesses, each of which is selectively operable to receive a crankpin cradlingly therein for supporting said blank in a predetermined angular position, and means for plugging the crankpin bounding portion of all of said recesses of said cradling means that do not receive a crankpin therein to prevent metal flow parallel to the crankpin axis.

2,999,299
BASE THREADING AND WELDING METHOD AND APPARATUS

Stanley C. Shappell, West Boxford, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed Oct. 29, 1956, Ser. No. 618,790
5 Claims. (Cl. 29—25.13)

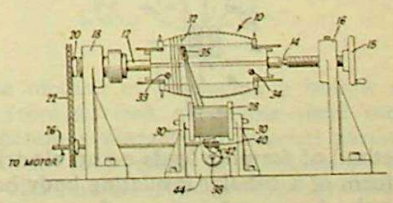


1. The method of locating lead-in wires, extending from an end of an electrical device, in pins of a base which comprises: positioning a base in axial alignment with the device and spaced from the free ends of the lead-in wires; positioning a threader between said base and the free ends of said lead-in wires, and in axial alignment with said base; advancing said base into abutting relationship with said threader; revolving the device about the axis of the threader; effecting relative longitudinal movement, between said device on the one hand and said threader and said base on the other hand, while said device is revolving, whereby the free ends of the lead-in wires enter into and through said threader and into the pins of said base; displacing said threader from abutting relationship with said base; displacing said threader from encompassing relationship with respect to the lead-in wires; and effecting relative movement, along the longitudinal axis of said device, between said device and said base, whereby the free ends of the lead-in wires are caused to pass through the pins of said base.

2,999,300
APPARATUS AND METHOD FOR PRODUCING CATHODE RAY TUBES

Aurelius Sandor, Forest Hills, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

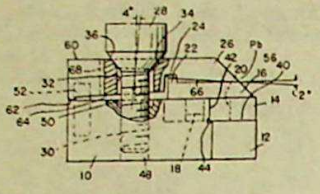
Filed Feb. 3, 1958, Ser. No. 712,871
2 Claims. (Cl. 29—25.19)



1. Apparatus for manufacturing grid structures for cathode ray tubes comprising a polyhedronal mandrel rotatable about an axis; a pair of wire supporting combs adjustably fastened to a pair of opposed surfaces of said mandrel and parallel to the axis of rotation of said mandrel; means for rotating the mandrel and winding wire over said combs so as to form a grid of parallel wires be-

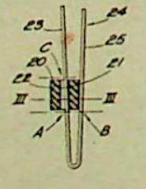
tween the combs; slotted means extending in the direction of the axis of the mandrel carried by said mandrel and means, movable within and along said slotted means, for applying cement to wires across said parallel combs.

2,999,301
CUTTING TOOL
Alfred R. Conti, 7730 Detroit Blvd., Walled Lake, Mich., and Daniel J. Menter, 3309 Harold St., Saginaw, Mich.
Filed Feb. 24, 1959, Ser. No. 794,995
5 Claims. (Cl. 29—96)



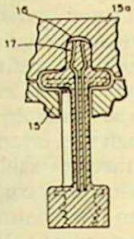
1. A cutting tool comprising a support body having a flat support surface thereon and a pair of locating surfaces extending outwardly from said support surface, a flat polygonal blade on said support surface having an opening therein and engageable with said locating surfaces, a clamp mounted on said support body and movable thereon in a direction generally parallel to said support surface and having substantial components toward both of said locating surfaces. an adaptor intermediate said clamp and blade coupling said clamp to said blade at said opening for movement of the blade in said direction, said adaptor having a projection loosely received in the opening in said blade to so couple the latter, an elongated tongue and groove connection between said clamp and said adaptor extending in a direction generally transverse to the direction of movement of said clamp on said support body, threaded means connected to said support body and engageable with said clamp, and camming surfaces on said threaded means and clamp effective to move said clamp and blade to locate said blade against both of said locating surfaces and thereafter to clamp said blade in located position on said support surface.

2,999,302
APPLYING LEADS TO TUBULAR ELECTRICAL COMPONENTS
Willem Beukema, Bernard Hendrik Bruijning, and Johannes Vuurmans, Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 29, 1956, Ser. No. 618,887
Claims priority, application Netherlands Nov. 5, 1955
5 Claims. (Cl. 29—155.5)



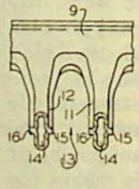
1. A method of forming leads on an electrical component in a form of a tubular insulating body having metal coatings at the inner and outer surfaces, comprising the steps of arranging a hairpin-shaped elongated conductor with the bight spaced from one end surface of the body, with one leg extending through the bore of the body in contact with the inner coating and some distance beyond the other end surface, and with the second leg extending in contact with the outer coating and some distance beyond the said other end surface; dipping the assembly bight first into liquid solder while maintaining the body in a supported position spaced above the bight to thereby solder the legs to the respective metal coatings; and severing at least the bight portion to divide the conductor into two separate leads each connected to one of said coatings and extending from at least one end of the body.

2,999,303
BLADES FOR GAS TURBINE ENGINES
George O. Eccles, Barrowford, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed May 8, 1959, Ser. No. 811,831
Claims priority, application Great Britain May 21, 1958
3 Claims. (Cl. 29—156.8)



1. The process of forming a platformed or shrouded blade for an internal combustion turbine engine from a blank having a plurality of longitudinal axially disposed holes extending through the potential platform end thereof and filled with a deformable material comprising extruding said blank to provide a blade portion of relatively thin elongated cross-section, upsetting the said end into a laterally widened platform portion having an undersurface facing away from said end, said platform being of greater thickness than needed for the finished product thereby "kinking" the filled holes to substantially follow the outline of the widened portion, further shaping the platform portion by engaging its under surface and forcing the platform in a die having a cavity shaped in plan to receive it and having a longitudinal extension cavity of approximately blade thickness and width thereby to extrude metal from the platform in the extension cavity thus drawing out and straightening the holes in that portion of the upset blade end which is left to form the tip platform or shroud.

2,999,304
METHOD OF MANUFACTURING HEAT EXCHANGERS
Theron F. Pauls, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Jan. 29, 1960, Ser. No. 5,534
13 Claims. (Cl. 29—157.3)



1. In a method of making a hollow metal heat exchanger from a seamless one-piece sheet metal blank having internally disposed therein a system of distended tubular passageways bulged out of the face of said blank and circumscribed by solid web portions of said blank wherein said system comprises at least two spaced and adjacent rectilinear tubular passages, a combination of steps comprising cutting the solid web portion of said blank between and adjacent said passages to form a cut there-

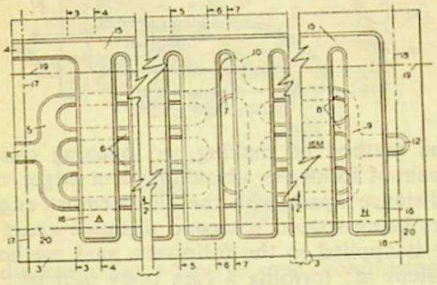
through, and separating the edges of said blank adjacent said cut away from each other substantially in the plane of said blank sufficiently to substantially alter the cross-sectional configuration of said passages adjacent said cut so as to increase their distention out of the face of said blank.

2,999,305

SPIRAL HEAT EXCHANGER

William G. Reynolds, Anchorage, Ky., assignor to Reynolds Metals Company, Louisville, Ky., a corporation of Delaware

Filed Dec. 27, 1955, Ser. No. 555,547
7 Claims. (Cl. 29—157.3)



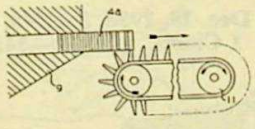
1. A method of making a heat exchanger comprising: forge welding at least three sheets of metal into a composite panel with one resist pattern between one pair of adjacent faces to prevent welding along areas forming one potential system of passageways for the flow of fluid longitudinally along said panel and with another resist pattern between another pair of adjacent faces to prevent welding along areas forming another potential system of passageways for the flow of fluid transversely of said panel and across said one potential system of passageways; expanding one of said potential systems of passageways to one height; thereafter, expanding the other system of potential passageways to a relatively greater height; and spirally wrapping said panel about a tranverse axis.

2,999,306

HOT PRESSURE WELDED HONEYCOMB PASSAGEWAY PANELS AND LIKE STRUCTURES

Bruce L. Baxter, Louisville, Ky., assignor to Reynolds Metals Company, Richmond Va., a corporation of Delaware

Filed Nov. 19, 1956, Ser. No. 622,901
5 Claims. (Cl. 29—157.3)



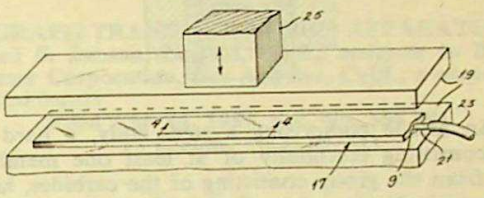
1. A method of making a honeycomb panel comprising: assembling a stack of superposed metal sheets together with an appropriate pattern of stop-weld material sandwiched between certain sheets, each pattern being composed of a transverse row of spaced parallel longitudinally extending strips of stop-weld material, the alternate patterns being aligned with one another and offset transversely from the intermediate patterns which are aligned with each other; applying heat and pressure to the stack to bond the sheets together outside of said stop-weld strips and thereby form an integral panel having a plurality of transverse rows of strip-like areas providing unwelded potential honeycomb passages; and expanding said honeycomb passages by inserting a plurality of expansion tools aligned in a row simultaneously into the ends of a given row of passages, each of said tools being inserted axially into its passage, and relatively moving said row of tools as a group in a direction at right angles to said row of passages and away from the unexpanded portion of said panel so as to effect the simultaneous expansion of said given row of passages and by successively repeating said insertion and expansion operation for each succeeding row of passages.

2,999,307

FABRICATION OF HOLLOW ARTICLES

William J. Compas, Branford, Conn., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia

Filed Nov. 30, 1956, Ser. No. 625,534
6 Claims. (Cl. 29—157.3)



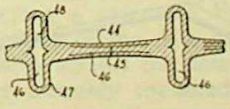
2. In forming a hollow article from a blank of ductile metal by expanding an unjoined portion of said blank, the method comprising the steps of positioning the blank between spaced apart pads, expanding the unjoined portion of the blank into firm engagement with said pads by injecting a fluid pressure into said unjoined portion at a first pressure level to expand said unjoined portion, thereby forming a hollow portion, regulating said fluid pressure to below the bursting pressure level of said blank, increasing the spacing between said pads so that said pads are spaced farther apart than during the prior expansion step, and increasing the volume of the expanded unjoined portion by expanding the resultant hollow portion into firm engagement with the pads by injecting a fluid pressure into said unjoined portion at a second pressure level sufficiently high to further expand said unjoined portion, said second pressure level being below said first pressure level.

2,999,308

HEAT EXCHANGER

Theron F. Pauls, Oak Park, Ill., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia

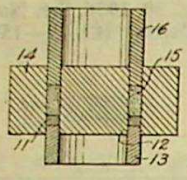
Filed June 3, 1957, Ser. No. 663,062
13 Claims. (Cl. 29—157.3)



1. In the method of producing a hollow metal heat exchanger from a blank of ductile sheet metal having provided therein a plurality of internal passageways coextending with each other in substantially spaced relationship wherein said passageways have their opposite walls bulged out of corresponding opposite faces of said blank, the improvement comprising the step of thinning down and simultaneously elongating the web portion of said blank between adjacent passageways by compressing said web portion to force the metal of said web portion to flow toward said adjacent passageways sufficiently to thereby change the cross sectional configuration of said adjacent passageways so that their axis transverse the

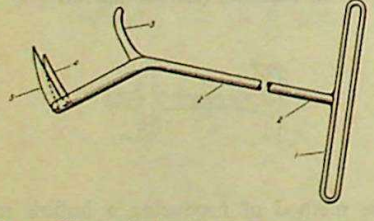
plane of said blank is elongated, said step being performed while maintaining substantially said spaced relationship between said adjacent passageways.

2,999,309
COMPOSITE METAL ARTICLE AND METHOD OF PRODUCING
Jerome F. Kuzmick, Upper Montclair, N.J., and Jan M. Krol, New York, N.Y., assignors to Welded Carbide Tool Company, Inc., Clifton, N.J., a corporation of New Jersey
Filed Apr. 6, 1955, Ser. No. 499,591
13 Claims. (Cl. 29—194)



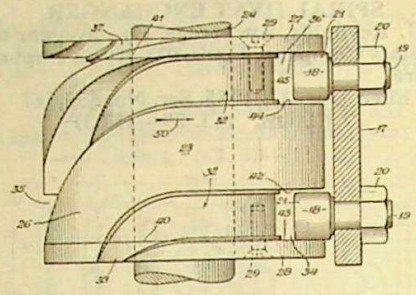
3. An article comprising a steel body, a hard metal body consisting essentially of at least one member selected from the group consisting of the carbides, nitrides, borides and silicides of a metal selected from the group consisting of titanium, tungsten, tantalum, zirconium, chromium and molybdenum, and a powder metal alloy layer positioned between said bodies and bonding the same together, said article being produced by hot pressing a powder metal alloy layer while in contact with said steel body and said hard metal body at sufficient temperature below 2400° F. and sufficient pressure to produce a metallurgically bonded joint between said steel body and said powder metal layer on one interface and between said hard metal body and said powder metal layer on the other interface, said powder metal alloy layer consisting essentially of not less than about 30% by weight of a powder of said hard metal, the balance of said powder metal alloy being selected from the group consisting of iron powder, nickel powder, chromium powder, manganese powder, cobalt powder, combinations of these metal powders and inter-alloys thereof.

2,999,310
TOOLS FOR RAILWAY AIR BRAKE HOSE CONNECTIONS
Wiley S. Pope, 2426 Ave. U Ensley, Birmingham 8, Ala.
Filed Oct. 14, 1957, Ser. No. 689,879
1 Claim. (Cl. 29—270)



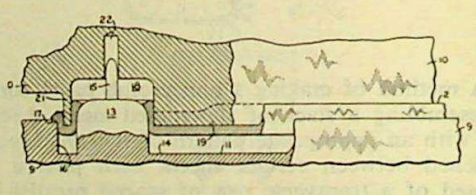
A tool for railway air brake hose connections, comprising a metal rod, said rod having one end formed as a T shaped handle, its other end portion being bent slightly out of line with the shank portion leading from the handle, its bent portion being formed with three integral extended portions, two of said extended portions being at the extreme end of the rod, being substantially U shaped and extending substantially perpendicular to said other end portion, the other extended portion being positioned at the point on the rod where it starts to bend out of line and extending outward from the rod in the same direction as that of the U shaped extended portions.

2,999,311
METHOD OF MANUFACTURE OF AN INDEXING CAM
James A. McDonald, Oak Lawn, and Howard H. Evans, La Grange Park, Ill., assignors to Commercial Cam & Machine Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 4, 1959, Ser. No. 791,121
4 Claims. (Cl. 29—401)



1. The method of making an indexing cam for use with a pair of followers whose adjacent edges are spaced a first distance apart with the furthermost edges of the followers being spaced a second distance apart when no pressure is applied to the followers, said method including the steps of: forming a cam body part of cylindrical configuration with a first cylindrical axis and an end; forming an end plate part of cylindrical configuration with a second cylindrical axis and an end; releasably joining said parts with said two ends abutting and axes coincident to form a cam body; machining a pair of cam tracks in the cylindrical surface of said body with parallel dwell portions in each of said tracks, said tracks being machined so that the adjacent walls of the tracks along the said dwell portions are closer together than said first distance with the furthermost walls of said tracks along the said dwell portions being machined to be at least said second distance apart, said tracks being machined so that the furthermost walls of said portion of one track is defined by said end part and the furthermost wall of said portion of the other track is defined by said body part; releasing and separating said parts; machining one of said ends to define a new end closer to said furthermost wall therein than was the original end; heat treating said parts; reassembling the separated parts; and polishing at least the furthermost walls of said tracks.

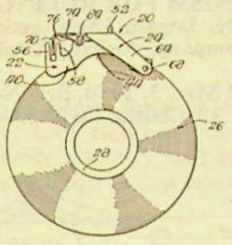
2,999,312
FLANGE REINFORCED EMBOSSMENT
Arnold G. Schilberg, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Dec. 29, 1955, Ser. No. 556,130
1 Claim. (Cl. 29—545)



The forming of a flange reenforced cylindrical embossment on a flat metal blank in a single operation, comprising initially expanding a circular portion of the blank surrounding and immediately adjacent a preformed perforation therein by drawing the same over the gradually curved head of a male die member in forming the embossment, progressively extruding the drawn metal to form a tubular embossment on the blank of a thickness substantially thinner than the blank, and extruding a reenforcing flange closely adjacent the tubular embossment

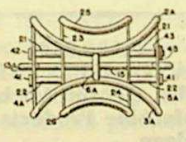
and substantially reduced in thickness from the blank, said extruding of the flange being simultaneous with the extrusion of the embossment to provide balanced forces on opposite sides of the intermediate die member and prevent tearing of the metal as occurs where the extruding operations are successive.

2,999,313
TAPE DISPENSER
George W. Emmert, Winnetka, Ill., assignor to FEDCO Corporation, a corporation of Illinois
Filed July 22, 1957, Ser. No. 673,422
7 Claims. (Cl. 30—124)



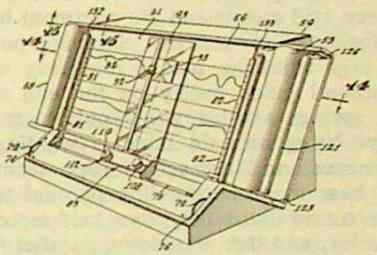
6. A dispenser for adhesive tape, comprising a body over which unwound tape may be withdrawn in a predetermined path from the circumference of an associated roll of tape, means for severing the unwound tape at a predetermined transverse line along said path, spaced apart tape support surfaces on said body for supporting the unwound tape along said path intermediate said transverse line and the circumference of the roll of tape, said tape support surfaces having a void therebetween bridged by a portion of the unwound tape, and depressor means adapted to contact the surface of the tape opposite that surface contacted by said tape support surfaces for depressing the bridging portion of tape into said void subsequent to the severing of the tape, thereby to direct the severed end of the tape outwardly from said body into a position wherein such end may be readily grasped by the fingers preparatory to withdrawal of another length of tape from the roll.

2,999,314
COOKY, BISCUIT AND DOUGHNUT CUTTER
William H. Reichlein, 8642 SE. Holgate Blvd., Portland 66, Oreg.
Filed May 24, 1960, Ser. No. 31,297
1 Claim. (Cl. 30—306)



A cooky and doughnut or biscuit cutter comprising one pair of interconnected cutting elements of substantially elliptical shape in plan view, arcuate in front elevation with their convex surfaces adjacent each other and thereat interconnected by arcuate crosspieces, said cutting elements and arcuate crosspieces all made of material of uniform cross-sectional diameter whereby to present a smooth, uninterrupted circular form in side elevation, a first pair of side plates interconnecting said cutting elements and having aligned openings therethrough, said side plates having slots therein open at one of their ends, a second pair of side plates coextensive in length with said first pair of side plates, means carried by said second pair of side plates extending through said slots thereby removably mounting said second pair of side plates to said first pair of side plates, a second pair of cutting elements secured to said second pair of side plates spaced inwardly from said first pair of cutting elements concentrically therewith, and a wire frame formed into a handle at one of its ends bifurcated at its opposite end into a bail member provided with opposing trunnions journalled in said first pair of side plates, whereby when both pairs of cutting elements are rolled over a sheet of dough uninterrupted rings of dough will be cut between said first and second pairs of cutting elements and the dough between successive rings will be severed by said arcuate crosspieces, and whereby upon removal of said second pair of cutting elements and their side plates from said first pair of side plates circles of dough will be cut by said first pair of cutting elements and the dough therebetween severed by said arcuate crosspieces.

2,999,315
GRAPH TRANSFORMATION APPARATUS
Bernard S. Benson, Malibu, Calif., assignor to Benson-Lehner Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 24, 1953, Ser. No. 350,991
17 Claims. (Cl. 33—1)



6. Graph transformation apparatus comprising a stationary data support having a flat surface adapted to have imposed thereon a data graph, said data graph extending generally from left to right when viewed by a human operator seated at the support; elongate guide means mounted on said support and disposed substantially horizontal and parallel to the abscissae of the data graph; means for mounting at least one end of said elongate guide means for movement toward and away from the data graph imposed on said surface, said movement being generally along the ordinate of the data graph; an index guide member secured to said movable end of said elongate guide means and disposable along an edge of said data support, whereby said elongate guide means may be adjusted in accurate parallelism with the abscissae of the data graph; an abscissa read-out member mounted on said guide means and movable longitudinally back and forth therealong, a portion of said abscissa read-out member projecting over said flat surface and carrying a reference line generally transverse of the abscissae of the data graph, said reference line being imposable against the data graph; an ordinate read-out member movably mounted on said reference member and carrying an ordinate read-out graph adapted to be imposed against said reference line and said data graph, and means for measuring the relative position of said ordinate read-out member on said abscissa read-out member.

2,999,316
FINE-ADJUSTMENT DEVICE
Bernhard Wempe, Wasserlohstrasse 7, Egerer, near Chieming, Upper Bavaria, Germany
Filed Aug. 24, 1959, Ser. No. 835,526
Claims priority, application Germany Sept. 3, 1958
6 Claims. (Cl. 33—19)

1. A fine adjustment device, comprising, in combination: a base means; a movable table; means for guiding

the movement of said table along said base means; a screw spindle connected to said table for moving the latter along said guiding means; said table including a lower table part, an upper table part, leaf springs connecting said table parts for friction-free movement therebetween, and an abutment connected to the upper table part; an additional leaf spring clamped to said lower table part and bearing against said abutment in the vicinity of the clamping point; means connected to the free end of said additional leaf spring for adjusting the position of said spring and thus the position of the upper

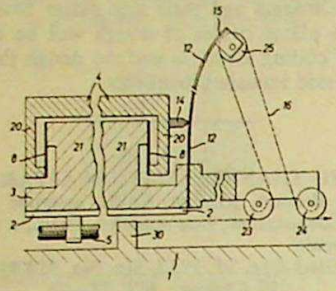
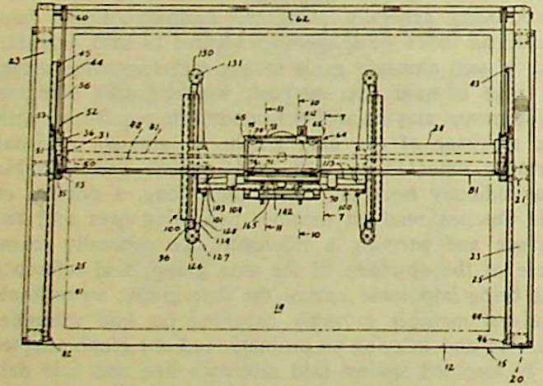


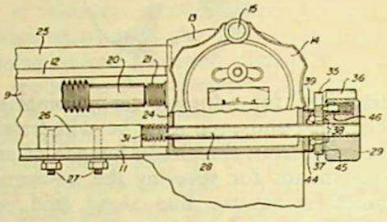
table part with respect to the lower table part, the distance between said means and the abutment being greater than the distance between the clamping point and the abutment, said adjusting means including a first guide pulley, a second guide pulley on the end of the additional leaf spring, a third guide pulley, said first and third pulleys being on said table, a winding device on said base means, and a traction rope secured on one end to the base means, extending parallel to the plane of the table to said first pulley, over said second pulley to the third pulley, and then extending parallel to the plane of the table to said winding device.

2,999,317
DRAFTING APPARATUS
Samuel W. Alderson, New York, N.Y., assignor to Alderson Research Laboratories, Inc., Long Island City, N.Y., a corporation of New York
Filed July 22, 1957, Ser. No. 673,191
17 Claims. (Cl. 33—26)



1. In a drafting machine, the combination of a drafting board provided with guide tracks at opposite ends thereof, and a primary and a secondary rectangular coordinate system, the primary system including a first cross-beam mounted for sliding travel in said tracks, a cross-slide mounted for sliding travel on the cross-beam, the secondary system including a second cross-beam centrally pivoted on the cross-slide, opposed end frames carried by said second cross-beam and provided with guide tracks, a stylus frame mounted for sliding travel in said last mentioned guide tracks at right angles to said second cross-beam, a stylus carriage mounted for longitudinal sliding travel on said stylus frame, a drafting head pivoted on said carriage, a bar slide mounted for movement on the drafting head and a stylus carried by said bar slide whereby movement of said cross-slide or said first cross-beam, when the coordinate systems are parallel, produces horizontal or vertical lines, respectively, and when non-parallel produces lines at an angle to said horizontal or vertical lines, and rotation of the drafting head, when the stylus is disposed eccentrically of the second pivot, produces circles.

2,999,318
DOUBLE LINE SPACER AND MICROMETER MECHANISM FOR RULING MACHINES
Robert S. Shelly, Logan, Utah, assignor to Pack Manufacturing Company, Logan, Utah, a corporation of Utah
Filed Mar. 3, 1958, Ser. No. 718,648
12 Claims. (Cl. 33—81)

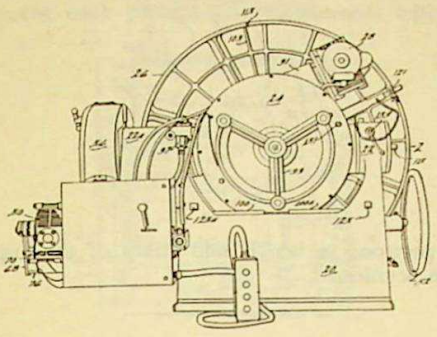


1. In combination, an indexing head having means to position a straightedge; a block fixed to a supporting table on one side of the indexing head and spaced from said head; a stem extending through the indexing head and having at one end a screw threaded engagement with said block; a knob secured to the opposite end of the stem on the opposite side of the indexing head and adapted to rotate the stem to move the indexing head relative to said block; a step washer fixed to the indexing head near the knob, the stem passing through the step washer and rotatable relative thereto; said step washer having at least two laterally disposed steps; a control arm mounted on the stem between the knob and the step washer and secured against longitudinal movement; a pin fixed to the control arm engageable with a selected one of the steps of the step washer; and a spring means biasing said indexing head and said washer against said control arm and the said control arm against said knob to hold said pin in such engagement but yielding to permit engagement of said pin with another step as the control arm is swung.

2,999,319
LAYOUT FIXTURE
Clarence Henry Miller, Detroit, Mich., assignor, by mesne assignments, to Machine Products Corporation, a corporation of Michigan
Filed Nov. 16, 1955, Ser. No. 547,171
3 Claims. (Cl. 33—174)

2. A checking fixture comprising a base member having upwardly extending, spaced apart arms, a drum-like supporting member trunnioned between said arms, a table rotatably mounted on one face of said supporting member, said table having two radially spaced concentric shoulders on the side thereof adjacent the supporting member, an annular scale mounted on the radial shoulder closest to said supporting member, a clamp having one portion bearing on said scale and another portion positioned opposite the other of said radial shoulders, said clamp being provided with a threaded aperture in said other portion thereof, a threaded rod member engageable with said clamp in the threaded aperture thereof and rotatably supported by said table, said rod-

like member having an annular groove therein adapted to receive a pin whereby said rod-like member is permitted to rotate but is held against longitudinal move-



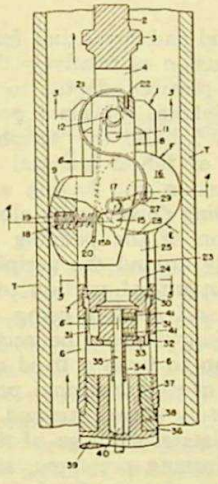
ment for moving said clamp member toward or away from said scale, and tool engaging means at the end of said rod-like member whereby said rod-like member may be rotated to thread said clamp against said scale.

2,999,320

RELEASE ASSEMBLY FOR TUBING CALIPER

John V. Fredd, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Mar. 3, 1959, Ser. No. 796,812
23 Claims. (Cl. 33—178)



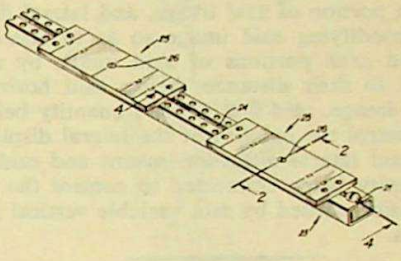
1. In an internal tube wall calipering and recording device adapted to be passed through an extended length of tubing, said device including a plurality of feelers arranged in a feeler head assembly and mounted for movement from a feeler-retracted position out of contact with the tubing wall to a feeler-extended position for contact with the tubing wall: a mechanism for releasing said feelers for movement from the feeler-retracted position to the feeler-extended position comprising an elongated hollow body member adapted to be secured to the feeler head assembly, a plunger mounted within said body member for longitudinal movement with respect thereto, a feeler controlling member secured to said plunger, said controlling member releasing said feelers for movement to a feeler-extended position in response to movement in a predetermined direction of said plunger with respect to said body member, a releasable retaining member mounted within said body member and originally locked in position therein, said retaining member engaging said plunger to prevent movement of the latter in said predetermined direction, a contacting member movable longitudinally with respect to said body member and extending beyond the outer surface of said body member to firmly contact the tubing wall, and means operated by said contacting member, in response to a downward longitudinal movement of said body member with respect to said contacting member, to unlock said retaining member, thereby to release said plunger for movement in said predetermined direction.

2,999,321

APPARATUS FOR FACILITATING THE MAKING OF PLEATED DRAPERIES

John W. McAllister and Eva C. McAllister, West Covina, Calif., assignors of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California

Filed May 13, 1959, Ser. No. 812,888
10 Claims. (Cl. 33—180)



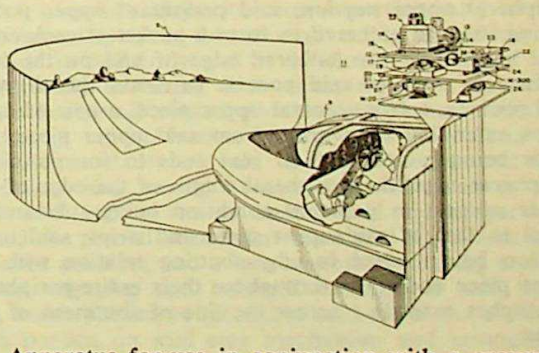
1. Apparatus for facilitating the making of pleated draperies, comprising: an elastic longitudinal member carrying at equally spaced locations therealong a plurality of spacer members; fastening means for fastening a first portion of said elastic longitudinal member at a fixed location; and controllably operable fastening means for locking said spacer members in any selected extended relationship with respect to said fixed location.

2,999,322

VISUAL DISPLAY METHOD AND APPARATUS

Harold S. Hemstreet, Binghamton, N.Y., assignor to General Precision Inc., a corporation of Delaware

Filed Jan. 5, 1955, Ser. No. 480,033
34 Claims. (Cl. 35—12)



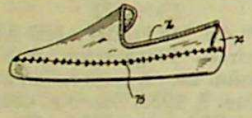
9. Apparatus for use in conjunction with a grounded aircraft trainer for providing a realistic visual display of a ground area, said trainer being provided with dummy controls and instruments and operable by a student to provide instrument indications simulating those of an actual aircraft during like operation of said controls, said apparatus being adapted for use with a motion picture film having a plurality of frames, each of said frames bearing a representation of said ground area as it would appear when viewed obliquely from an airborne aircraft, and each of said frames representing said area as viewed at a different point along a reference path extending obliquely toward said ground area, comprising, in combination, motion picture projection apparatus for project-

ing images from said film to be observed by said student, said projection apparatus being controlled in accordance with the simulated instantaneous position of said simulated aircraft from said ground area so as to project an image at any given instant from a selected frame of said film which represents said area as viewed from a distance commensurate with the simulated distance between said simulated instantaneous position of said simulated aircraft and said ground area, means for deriving a first control quantity commensurate with the ratio between the instantaneous simulated horizontal distance between said simulated aircraft and said reference path and the simulated altitude of said reference path at said simulated distance, means for deriving a second control quantity commensurate with the difference between the instantaneous simulated altitude of said simulated aircraft and the simulated altitude of said reference path at said simulated distance, variable vertical magnification means for magnifying said projected image vertically with respect to a horizon portion of said image, and lateral distortion means for modifying said image so as to laterally displace ground area portions of said image by amounts proportional to their distances below said horizon portion of said image, said first control quantity being connected to control the amount of the lateral displacement caused by said lateral distortion means and said second control quantity being connected to control the amount of magnification caused by said variable vertical magnification means.

2,999,323
MOCCASINS AND FOOTWEAR

oseph D. Bozza, Jersey City, N.J., assignor to The Jo-An Shoe Manufacturing Co. Inc., Fairlawn, N.J., a corporation of New Jersey

Original application Dec. 17, 1956, Ser. No. 628,928, now Patent No. 2,946,069, dated July 26, 1960. Divided and this application July 3, 1958, Ser. No. 747,105
4 Claims. (Cl. 36—11)



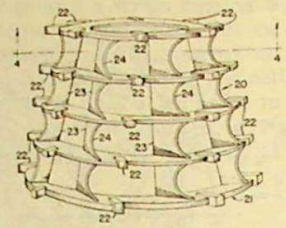
4. A footwear construction comprising a sole and peripheral upper portion, said peripheral upper portion having its edge gathered to form a pocket at each end, a cord secured to the gathered edge of and on the inner surface of each of said pockets to retain the shape of said pockets, a front-central upper piece, a pair of upper strips extending rearwardly from said upper piece, said strips being joined at their rear ends to form a closed peripheral edge, the peripheral length of the edge of said upper portion in gathered condition being substantially equal to that of said upper piece and strips, said upper portion being joined in edge-abutting relation with the upper piece and strips throughout their entire peripheries by stitches extending across the line of abutment of said edges.

2,999,324
CUTTERS FOR HYDRAULIC DREDGES

Sidney Carl Ohlhausen, Rte. 2, Box 455, Alvin, Tex.

Filed Feb. 29, 1960, Ser. No. 11,822
5 Claims. (Cl. 37—67)

1. A cutter comprising a supporting frame including a hub adapted to be rotated about an axis at the center thereof, a plurality of struts extending therefrom and diverging from each other, the ends of said struts being secured to an annular base member, a cutting cage positioned to substantially envelop the supporting frame, said cutting cage including a plurality of annular spaced members being connected by a plurality of web members, said annular members having outwardly extending cutting teeth, the inner portion of said annular members having

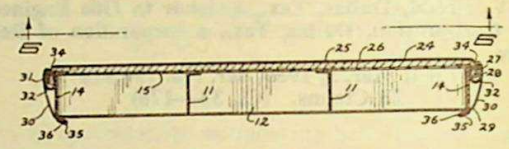


recessed portions in which said struts of the supporting frame are positioned.

2,999,325
COMBINATION PAD AND COVER UNIT FOR IRONING TABLE TOPS

Donald J. Munson, Minneapolis, Minn., and Robert Gustin, Boston, Mass., assignors to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota

Filed Aug. 6, 1958, Ser. No. 753,502
1 Claim. (Cl. 38—140)



A combination pad and cover unit for an ironing table top comprising a section of relatively thick padding material having a pad portion adapted to completely cover the top and a peripheral marginal portion adapted to depend downwardly around the peripheral edge of the top, a cover sheet of fabric material completely overlapping the pad portion and having a peripheral marginal portion extending downwardly along the outside of the marginal portion of the padding material, a skirt extending completely around the peripheral edge of the top outside of the marginal portion of said sheet, said skirt, cover sheet and section being stitched together along the line of juncture of the section pad portion and marginal portion to form a fixed continuous downwardly directed lip of said marginal portions within the skirt adapted to closely engage around the periphery of the top to prohibit lateral slippage of the unit along the top under normal ironing pressures, an elongated strip of fabric material covering the lip throughout its length, said strip being formed in a U-shape in cross section and extending downwardly inside the lip, then under the lip, and upwardly between the lip and skirt, and being held by the stitching along said line of juncture.

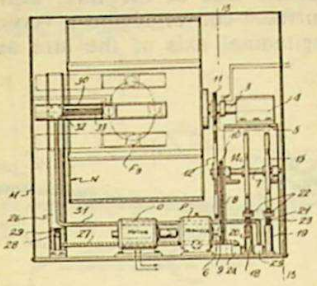
2,999,326
APPARATUS FOR PRODUCING ANIMATED OPTICAL EFFECTS

Georges Musaphia, 87 Withington Road, Newton, Mass.

Filed Oct. 14, 1958, Ser. No. 769,052
4 Claims. (Cl. 40—106.52)

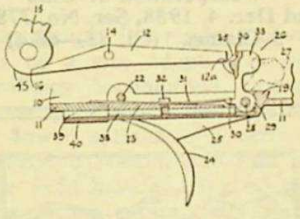
1. An apparatus for producing animated optical effects comprising: a cabinet having an aperture through which the products of animation may be viewed, a rotatable drum mounted therein and adapted to support a plurality of pictures successively for presentation through said aperture, a source of light within said drum arranged to project light through said pictures, a prime mover, actuating means operable by said prime mover for intermittently rotating the drum to present for a predetermined period successive pictures for observation through said

aperture, additional actuating means operable by said prime mover for varying the position of the light source during the periods when the pictures are observable through the aperture, and translucent screens overlying and adjacent each picture and immovable with respect



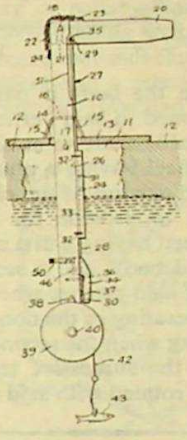
thereto and having non-magnifying bulbous protrusions from the plane of the picture and overlying selected portions of the picture, whereby as the position of the light source is changed a simulation of movement of the selected portions of the picture will be created.

2,999,327
SINGLE TRIGGER MECHANISM FOR DOUBLE BARRELLED SHOT-GUNS
John Eyton Orr, 42 Broad Road, Acocks Green, Birmingham, England
Filed Aug. 24, 1959, Ser. No. 835,522
8 Claims. (Cl. 42—42)



1. In a single trigger mechanism for a double-barrelled gun comprising a body, first and second firing members mounted therein, spring means urging said firing members towards fired positions, and first and second sears in said body coacting with said first and second firing members respectively to retain same releasably in cocked positions, the provision in combination; of a trigger movable relatively to said body between cocked and fired positions, an inertia member mounted movably on said trigger and movable therewith in a first direction during movement of said trigger, and movable relatively to said trigger in each of a second direction in response to gun recoil and a third direction, said first, second and third directions being mutually transverse, a primary abutment face on said inertia member, a secondary abutment face on said inertia member, abutment faces on said sears, selector means including a manually operable selector member operatively connected with said inertia member for moving same in said third direction to bring at least part of said primary abutment face into overlapping relation as viewed along said first direction with said abutment face on one of said sears and out of overlapping relation with said abutment face on the other of said sears selectively while positioning said secondary abutment face in said third direction potentially to be operative in relation to said abutment face of said other of said sears, to effect release of said one sear only upon movement of said trigger to its fired position, said inertia member having a mass such that it is moved along said second direction to an inoperative position in response to recoil of the gun upon release of said one sear and subsequent firing of the associated barrel of the gun, means urging said inertia member to an operative position along said second direction and active to effect such movement upon cessation of gun recoil, said secondary abutment face of said inertia member having at least a part disposed in overlapping relation with said abutment face of said other of said sears when said inertia member occupies said operative position to effect release of said other of said sears in response to movement of said inertia member in said first direction when said trigger is again moved to its fired position.

2,999,328
FISHING APPARATUS
Leoneil J. E. Revord, 1112 Louis Ave., Flint, Mich.
Filed May 31, 1960, Ser. No. 32,768
1 Claim. (Cl. 43—17)

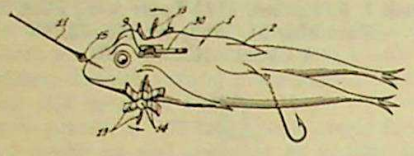


An apparatus for fishing through a hole in ice, said apparatus comprising an elongated upstanding body supported in and extending through the hole in the ice, a reel, having an extension thereon, rotatably mounted on the lower end portion of the body and submerged in the water below the ice, a line wound upon said reel so as to rotate said reel upon a pull on said line, said upstanding body having its upper end bifurcated to form a pair of branches and having transverse aligned openings through said pair of branches, a signal arm having one of its end portions in said bifurcation, being slotted from a side edge thereof to substantially its central portion, and having an oversized aperture therein, a pivot pin in said aligned openings in said body and in the slot in said signal arm for pivotally mounting said signal arm for movement from a horizontal cocked position to a vertical signaling position, a coiled tension spring positioned along the outer side surfaces of said upstanding body and said signal arm and having its opposite ends fixed to said body and arm so as to stretch said spring partially around the pivotal connection when said signal arm is in a cocked position, and a sear mechanism having a catch portion engaging said enlarged aperture in said signal arm, a nub portion connected to said body, and a second catch portion on said sear mechanism and arranged to releasably engage said nub portion to hold said signal arm in horizontal cocked position and to be disengaged therefrom by rotary movement of said reel to release said spring activated signal arm from horizontal cocked position for movement to vertical signaling position.

2,999,329
SOUND EMITTING FISHING LURE
Henry Pankuch, 1508 W. 101 St., Los Angeles 47, Calif.
Filed Nov. 26, 1958, Ser. No. 776,648
2 Claims. (Cl. 43—26.2)

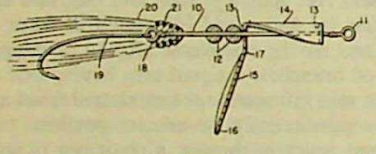
1. An audible fishing lure, including, a buoyant body for maintaining the fishing lure horizontally aligned and

partially submerged along the surface of the water having an upper and lower surface and defining a vertical opening from its upper surface through to its lower surface, said vertical opening being partially filled with water when the body is partially submerged, a horizontally aligned rotatable shaft supported by said body and passing transversely through said vertical opening of said body, a plurality of angularly spaced water vanes supported on each end of said rotatable shaft adjacent opposite sides of said body for rotating said shaft when the fishing lure is pulled along the surface of the water, only some of said vanes at each of the opposite sides of said body being in said water for any angular position of said



rotatable shaft when the body is partially submerged, a ratchet wheel positioned in said vertical opening and supported on said rotatable shaft so as to be rotatable therewith, said ratchet wheel having a plurality of teeth along only a predetermined portion of the circumference of said ratchet wheel so as to provide for spaced audible signals, and a flexible reed having a first end supported on the upper surface of said body, and a second end contacting the circumference of said ratchet wheel to provide for an audible signal reverberating in the non-water filled portion of the vertical opening when the second end of the flexible reed is vibrated by the successive teeth of said ratchet wheel as the wheel is rotated with said shaft.

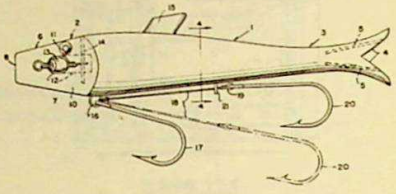
2,999,330
SPINNING LURE
John A. Sich, Jr., 3520 Hudson Drive, Youngstown 11, Ohio
Filed Oct. 10, 1958, Ser. No. 766,600
2 Claims. (Cl. 43—42.2)



1. In a spinning lure having an elongated body member in the form of a narrow shaft, eyelets formed at the opposite ends of said shaft and a hook attached to one of said eyelets; the improvement comprising an elongated first spinner element rotatably mounted on said shaft between said eyelets, said first spinner element comprising a strip like member having a longitudinally extending section twisted 90° between its end portions which end portions are disposed at right angles to said shaft and apertured to receive said shaft, the longitudinal axis of said twisted section being parallel with said shaft and positioned at one side thereof, a second spinning element formed on one of said end portions of said first spinning element and positioned on the same side of the shaft and comprising a blade extending outwardly therefrom, said blade being curved in a direction opposite to the direction of the twist of said element.

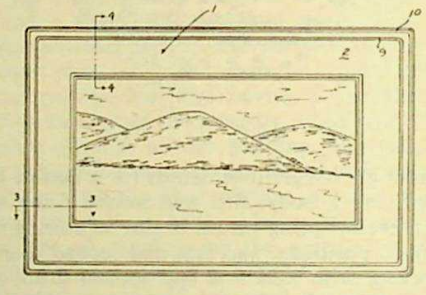
2,999,331
FISHING LURES
Wilmer R. Northup, Box 412, and Thomas W. Kaylor, 2111 Greenwood Ave., both of Reedsport, Oreg.
Filed Apr. 7, 1959, Ser. No. 804,716
1 Claim. (Cl. 43—42.46)

A fishing lure comprising an elongated rigid body member, means attached to said body member rearward of its forward end for attachment to a trolling line, said body member having a head portion at its forward end and a tail portion at its opposite end including tail fins, a fin of bendable metal secured to the top surface of the body of the lure and arranged diagonally relative to the longitudinal center line of the lure, said head portion having side surfaces converging to a vertical edge, offset from the longitudinal axis of the lure and offset from



said line attaching means, whereby the motion of the lure when moved through the water will simulate that of a crippled fish in that said offset vertical edge will cause the lure to swing to one side against the pull exerted by the trolling line and simultaneously said bendable fin will cause a rolling action of the lure and whereby the pull of the trolling line will return the lure to an upright position.

2,999,332
TABLE PLACE MAT
Jack Stein, Dayton, Ohio, assignor to Art Industries, Inc., a corporation of Ohio
Filed Dec. 4, 1958, Ser. No. 778,187
3 Claims. (Cl. 45—68.4)

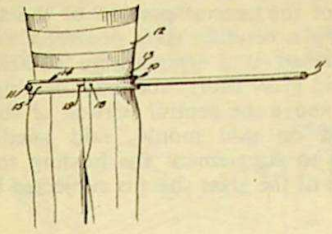


1. A place mat, including a first flexible sheet of impermeable transparent plastic, a smaller flexible sheet of impermeable material imposed on said first sheet, a third flexible sheet of material having an artistic impression thereon hermetically enclosed between said first and second sheets and a layer of absorbent material welded to said first sheet and over said second sheet, the welds between said layer of absorbent material and said first sheet being outside the margins of said second smaller sheet and arranged to simulate a frame for the artistic impression of said third sheet.

2,999,333
BELT HOOP SPINNER
William E. Clark, 305 Robinson St., Newport, Tenn.
Filed Jan. 20, 1959, Ser. No. 787,910
2 Claims. (Cl. 46—47)

1. A device of the character described consisting solely of a circular body member adapted to be positioned around the waist of the user, the outer periphery of the body member being provided with a continuous circular recess therein, a hoop arranged for rotary engagement with said recess, the diameter of said hoop being substantially greater than the diameter of the body member,

the body member having an inner smooth surface, there being a split in said body member, said body member

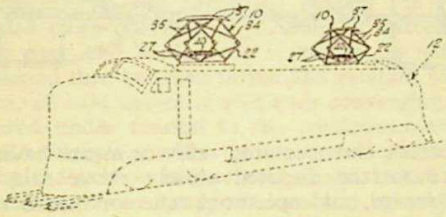


having openings on opposite sides of the split, and a hook member engaging said openings.

2,999,334
LOCOMOTIVE PANTOGRAPH

Moses Zion, Brooklyn, N.Y., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York

Filed Aug. 15, 1957, Ser. No. 678,375
3 Claims. (Cl. 46—217)



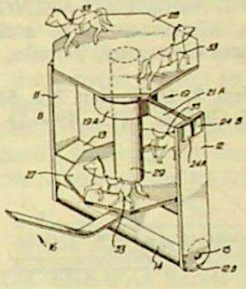
1. A toy pantograph for model railway locomotives including parts of a size adapted to be mounted on such model railway locomotives, comprising a base frame having an upwardly extending lug at each end with an outer lower substantially vertical face and an upper beveled face, a bottom side arm on each side of said base frame each having a lug on the end adjacent said base frame with a substantially vertical lower face opposing the vertical face of the lug on said base member and with a beveled upper face at the same elevation as the beveled upper face of the lug on said base member, flexible means connecting the lugs of said base member with each of said side arms intermediate the height of the vertical portions of said lugs, said side arms being pivotal upwardly to move the beveled faces of opposing lugs of said base member and said side arms into contact, simulated collector shoe means, a pair of upper side arms, one end of each of which is pivotally connected to each respective bottom side arm at the end thereof which is unconnected to said base frame member and the other end of which is pivotally connected to said collector shoe means, and a spring connected to said bottom side arms at a location on each above the tops of said lugs when said pantograph is in a raised operative position with the beveled faces of said lugs in contact, said spring biasing said lugs into contact when said pantograph is in said upper operative position.

2,999,335
MANUALLY OPERABLE CAROUSEL-SIMULATING TOY

Lee A. Barnett, Los Angeles, Calif., assignor of one-fourth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California

Filed June 30, 1959, Ser. No. 823,963
2 Claims. (Cl. 46—220)

1. A manually operable carousel-simulating toy, comprising: a frame including two laterally spaced upstanding members and an interconnecting base member, said frame being provided with rollable horizontally pivotally mounted wheel means extending below said base member for rollable contact with an underlying surface; oversized ring means mounted between said upstanding members spaced above said base member and open at the top and bottom in a position symmetrically disposed about a vertical central axis passing vertically centrally through the base member and the ring means; a rotatable carousel means consisting of a lower platform, an upper platform, and a longitudinal interconnecting central member having its own central longitudinal axis of rotation, said longitudinal central member extending upwardly through said ring means at an angle with respect to the vertical central axis passing centrally through the base member and the ring means and being of substantially smaller, round, exterior, cross-sectional shape and diameter than the inside diameter of said ring means and normally having an exterior portion of said longitudinal central member lying in rollable frictional abutting engagement with a corresponding interior portion of said ring means; and precessional-movement mounting means including a first element and a second element; said carousel means being centrally provided at the bottom there-



of with said first element of said precessional-movement mounting means and said base member being centrally provided with said second element of said precessional-movement mounting means precessionally engaging said first element of said precessional-movement mounting means whereby to mount said central member for rotation about its own longitudinal axis of rotation and for precessional movement about the vertical central axis passing centrally vertically through the base member, the precessional-movement mounting means, and the ring means, whereby said longitudinal axis of rotation of the longitudinal central member describes the surface of a cone about the vertical central axis passing through the base member, the precessional-movement mounting means, and the ring means; and handle means having one end fixedly fastened to said frame and having another end extending to a position offset therefrom for oscillating said frame about a horizontal axis whereby to cause said ring means to frictionally impart precessional movement to said longitudinal central member of said carousel means and to impart rotation thereto about its central longitudinal axis of rotation.

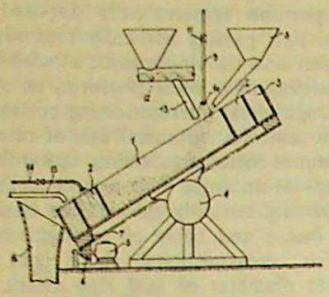
2,999,336
PREPARATION OF COATED SEEDS

Jean-Baptiste Cescas, Paris, France, assignor to Compagnie Nord-Africaine de l'Hyperphosphate Reno, Sfax, Tunisia, a corporation of Tunisia

Filed July 23, 1959, Ser. No. 829,045
Claims priority, application France Aug. 9, 1958
4 Claims. (Cl. 47—58)

1. A method of preparation of seeds provided with a coating of fertilizer material comprising the steps of introducing seeds to be coated into a granulating device, applying liquid in a fine spray to said seeds to moisten the surface thereof, adding fertilizer material in a fine powdered form to the moistened seeds for coating the moistened surface of said seeds with said fertilizer mate-

rial in a proportion of three to seven times the weight of said seeds, and further treating the coated seeds with concentrated sulphuric acid which is from 3 to 5% of the



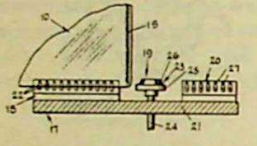
weight of said coated seeds to simultaneously dry and set the coating on said coated seeds by the exothermic reaction of the sulphuric acid with the fertilizer material.

2,999,337

APPARATUS AND METHOD FOR MAKING MULTIPLE SHEET GLAZING UNITS

Donald E. Sharp, Maumee, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Feb. 2, 1956, Ser. No. 563,007
2 Claims. (Cl. 49—1)



1. In apparatus for producing all-glass multiple sheet glazing units, comprising means for supporting a pair of hard glass sheets in fixed spaced face-to-face relation with respect to one another, a conveyor for moving said spaced glass sheets along a definite path, concentrated heat sources for raising the temperature of the spaced marginal edge portions of said sheets to a condition at which they may be fused to one another, a pair of forming wheels mounted for rotation the peripheral portions of which engage opposed heated marginal edge portions of said sheets as they move along the definite path and urge them toward and into fusion contact with one another, said peripheries provided with a plurality of spaced depressions to provide the sealed edge wall of the glazing unit with a patterned embossed surface.

2. A method of producing all-glass multiple sheet glazing units, comprising supporting a pair of hard glass sheets in fixed spaced face-to-face relation with respect to one another, moving said glass sheets along a definite path, heating the marginal edge portions only of said sheets as they move along said path to a temperature at which they are pliable, urging said pliable marginal edge portions toward and into direct fusion contact with one another to form a sealed edge wall, and during the urging of the pliable marginal edge portions toward one another impressing in the outersurfaces thereof a plurality of spaced depressions to provide a patterned embossed surface on the edge wall.

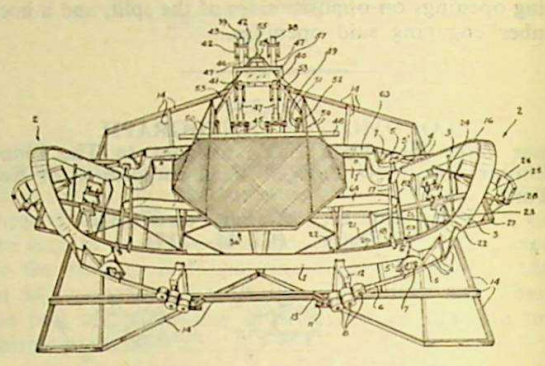
2,999,338

GLASS BENDING MOULD

Ronald E. Richardson, Oshawa, Ontario, Canada, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa.

Filed Jan. 29, 1957, Ser. No. 636,965
2 Claims. (Cl. 49—67)

1. Apparatus for bending an elongated glass sheet into a compound curvature including a central region having a transverse curvature, comprising a skeleton type bending mould having a central mould portion provided with bars having shaped upper surfaces for supporting the lateral edges of the central portion of the bent sheet, a lehr comprising a bending zone provided with overhead heaters maintained at a temperature sufficient to cause bending of said glass sheet, ancillary heating means disposed closely above the central portion of the glass sheet and supported on said mould, said ancillary heating means serving to supplement the heating to which said central portion of the glass sheet is subjected by said over-



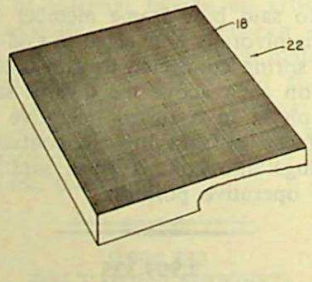
head heaters, and apertured reflector means having a heat reflective surface disposed closely above said ancillary heating means, said apertured reflector means serving to permit heat radiated from said overhead heaters to impinge on the glass sheet while increasing the proportion of radiant heat emitted by said ancillary heating means which impinges upon the central portion of the glass sheet to cause said central portion of the glass sheet to assume said transverse curvature about an axis extending longitudinally of the glass sheet in alignment with said ancillary heating means.

2,999,339

METHOD OF PROVIDING AN ELECTRICALLY CONDUCTIVE SURFACE

Joseph R. Hensler, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York

Filed Dec. 7, 1956, Ser. No. 627,067
3 Claims. (Cl. 49—77)



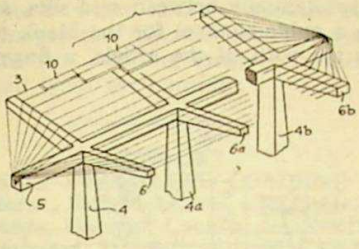
1. A method of making an article having an electrically conductive surface comprising the step of reducing a selected surface portion of a body of phosphate glass consisting essentially of by weight 8–25% silver phosphate, 30–75% aluminum phosphate, 10–30% alkali metal phosphate, and up to about 25% barium phosphate by exposing said surface portion to a reducing atmosphere at a temperature of 300° to 400° C. for about 2 to 3 hours, thereby to decrease the resistivity of said selected portion to less than about 10 ohms per square.

2,999,340

SURFACE SUPPORTING STRUCTURE

Rudolf Maculan, 6 Herrengasse, Vienna I, Austria; Ernst Meissner, guardian of Alexander Maculan, heir of said Rudolf Maculan, deceased

Filed Aug. 13, 1954, Ser. No. 449,595
Claims priority, application Austria July 13, 1954
1 Claim. (Cl. 50—49)



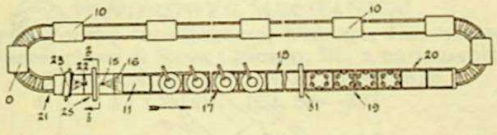
A roof construction comprising a pair of spaced erect standards, a ridgepiece supported atop and rigidly interconnecting said standards, a plurality of pairs of cantilever arms secured to said ridgepiece, the arms of each said pair extending laterally outwardly therefrom in opposite directions at spaced intervals along said ridgepiece, said arms conjointly defining a sloping roof area, said ridgepiece having each end extending beyond the adjacent one of said pairs of arms, a plurality of spaced cables extending over and across and supported by said arms and tensioned therebetween in parallel relation with said ridgepiece, all said cables at said ends converging toward and secured under tension to the contiguous extending end of said ridgepiece whereby the same is directly compressed by the tension in said cables, and metallic sheeting extending over and supported on and by said cables, said sheeting extending over said roof area and being attached to said cables at intervals only therealong.

2,999,341

CLEANING GLASS SUPPORTING TABLES

Harold M. Alexander and William E. McCown, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Oct. 22, 1956, Ser. No. 617,634
3 Claims. (Cl. 51—277)



2. A method of cleaning metal surfaced tables in a glass surfacing operation comprising brushing the magnetizable metal surfaces of said tables with a metal brush, thereafter passing the brushed tables through a first magnetic field to remove from the metal surfaces of the tables foreign matter resulting from said brushing, and subsequently passing said tables through a second magnetic field of reversed polarity from said first field to demagnetize the metal surfaces of said tables.

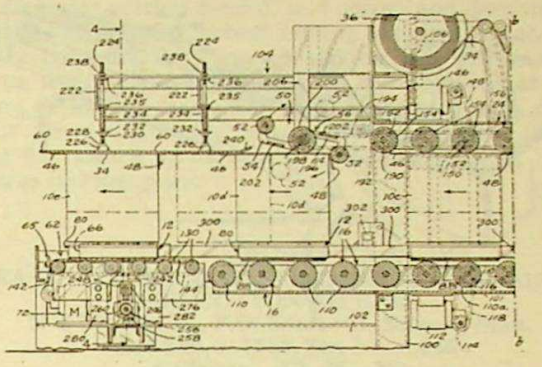
2,999,342

MECHANISM FOR APPLYING AND PRESSING ADHESIVE TAPE TO PERPENDICULARLY RELATED FACES OF TRAVELING CARTONS

Clifford D. Keely, West Englewood, N.J., and Raymond J. Baisley, Hempstead, N.Y., assignors to General Corrugated Machinery Company, Inc., Palisades Park, N.J., a corporation of New Jersey

Filed Apr. 22, 1959, Ser. No. 808,253
12 Claims. (Cl. 53—66)

1. A carton taping machine of the U-return type comprising, in combination, means for feeding a carton through an outgoing course, then through a transverse course and finally through a return course to the end of the machine at which it was introduced, all while maintaining the original orientation of the carton, means responsive to the carton for automatically feeding and cutting a length of tape determined by the length of the carton itself but exceeding the carton in length by a predetermined amount, means for applying the length of tape to the top of the carton as it travels along the outgoing course, with overhanging tape ends of substantially



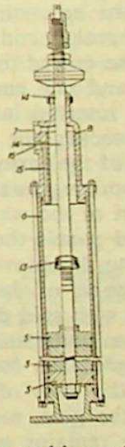
predetermined lengths protruding beyond the front and rear faces of the carton, means automatically effective to press down the rearwardly protruding tape end against the rear face of the moving carton as the carton travels along the first course, and means automatically effective to press the originally leading, but now trailing, tape end against the originally leading, but now trailing, face of the moving carton as the carton travels along the return course.

2,999,343

MACHINES FOR THE PACKING OF BOTTLES OR LIKE ARTICLES INTO CASES OR THE LIKE

Robert Michael Berry, Forest House, Birmingham Road, Henley-in-Arden, England

Filed Mar. 16, 1960, Ser. No. 15,506
1 Claim. (Cl. 53—166)

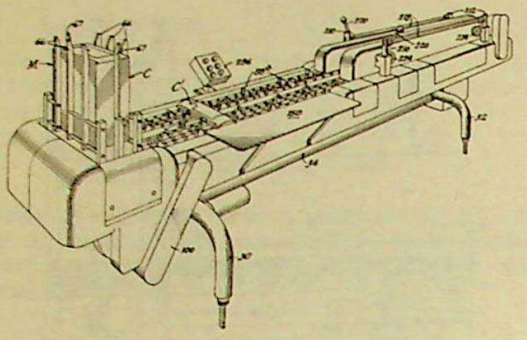


A machine for the packing of bottles or like articles into cases or the like, of the kind embodying an unfettered counter balanced head frame in which a plurality of bottles or the like are held for lowering into a packing case, comprising an air cylinder, a piston slidably mounted in said air cylinder, a piston rod coupled to said piston and connected to said head frame, a secondary piston mounted on said piston rod, the position of which is adjustable in accordance to the required initial downward travel of the head frame, a primary outlet to said air cylinder to permit of the passage of air from said cylinder during the initial descent of the head frame, and a secondary restricted outlet to said air cylinder operable on the closing of the primary outlet by the secondary piston to retard the rate of travel of the head frame during the remainder of its descent.

2,999,344
CARTONING MACHINE

Richard D. Clanin and Omar Hansen, Jr., Anderson, Ind., assignors to Lynch Corporation, Anderson, Ind., a corporation of Indiana

Filed Aug. 3, 1959, Ser. No. 831,297
21 Claims. (Cl. 53—186)



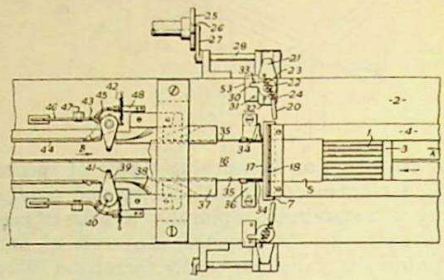
1. In a cartoning machine of the character disclosed, a magazine for a stack of collapsed cartons, the carton bodies being operated upon being of rectangular configuration and horizontally disposed with panels of the carton bodies constituting the side, top and bottom panels hereof, and having dust tabs and end panels connected herewith, a conveyor for receiving cartons from said magazine, said conveyor having carton-receiving dogs biased to engage the side panels of the carton and bow the top panel of the carton upwardly, said magazine having projections for supporting said stack of cartons in such manner that the lowermost one may be withdrawn downwardly from the stack, vacuum cups for engaging the lowermost carton, withdrawing it from the magazine, partly erecting it and preliminarily bowing the top panel thereof, said magazine having strippers for engaging said top panel to effect such bowing and a breaker rod to start the erection of the carton as it is withdrawn past said breaker rod, tuckers for dust tabs and an end panel at one end of the carton, means for retaining said dust tabs and said end panel tucked to serve as a stop for product inserted into the carton from the other end thereof, a tucker for dust tabs and an end panel at the other end of the carton, dewaxers past which the carton passes comprising heating plates and heaters therefor to remove part of the wax from the ends of the carton and the top end panels thereof to permit the application of glue thereto, holddown means for removing the bow from the top panel of the carton and contacting the end panels thereof with said dewaxing means, gluing means for said carton ends and said remaining end panels thereof, tucking means for said top end panels to tuck them against the ends of the carton, means to heat said ends to set the glue, means to cool said ends to insure that the glue remains set, and means for discharging the sealed carton from said machine.

2,999,345
APPARATUS FOR FOLDING FLEXIBLE WRAPPERS ABOUT RECTANGULAR BLOCK-SHAPED ARTICLES

John Walker Chalmers, Charles Thomas Hall, and William Arthur Roffey, all of Deptford, London, England, assignors to Molins Machine Company Limited, London, England, a British company

Filed Mar. 1, 1960, Ser. No. 12,215
Claims priority, application Great Britain Mar. 17, 1959
9 Claims. (Cl. 53—230)

1. Apparatus for wrapping rectangular block-shaped articles by moving an article against a wrapper blank, provided with pairs of slits at each side spaced apart by the article thickness and extending from the edges of the blank to such distance that the two pairs are spaced apart by the width of the article to provide a flap at each side of the blank, said blank being positioned in the path of the article, whereby the blank is first folded into a U about the article by being moved between plates spaced apart by the article thickness, with the base of the U extending substantially between said slits, said apparatus comprising a guide channel for the blank to lead it into position in the path of the article, a finger movable at

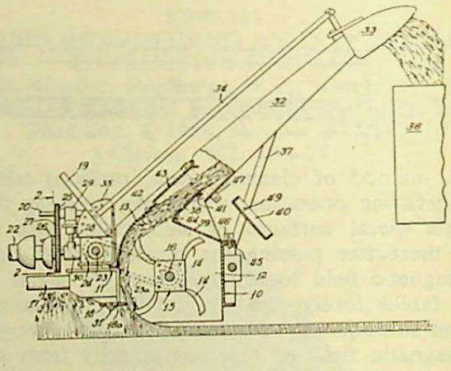


each side of the blank while in said guide channel to bend the said flap at that side through an angle with respect to the plane of the blank and in the direction of movement of the article, guides to retain the flaps in bent position and folding devices arranged, on continued movement of the article, to fold the blank into the said U, whereupon the said flaps project forward of the base of the U and lead the moving article and folded blank, and thereafter to fold the material extending laterally of the top and bottom faces of the article to form long side folds along the sides of the article.

2,999,346
VARIABLE DISCHARGE CROP REAPER AND CHOPPER

Bernard C. Mathews, Rte. 4, Huntley, Ill.

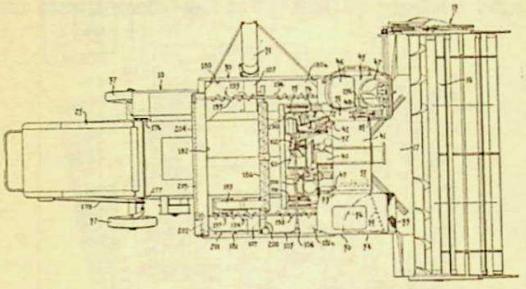
Filed July 7, 1959, Ser. No. 825,435
10 Claims. (Cl. 56—1)



1. A harvesting device comprising an elongated housing portably supported to travel sidewise over the ground and provided with an entrance thereto at the bottom thereof facing downward toward the ground and exit means therefrom at the top and a centrifugal impeller therein all of which are elongated in the direction of the length of and are substantially co-extensive with the length of the housing, the centrifugal impeller being elongated axially and interposed between the entrance and exit means and rotatable about its axis in a direction to remove ground borne material from the ground at the entrance and impel the removed ground borne material upwardly in the housing at the front thereof and rearwardly in the housing at the top thereof and discharge it centrifugally from the housing through the exit means, the exit means being provided with exit selecting means

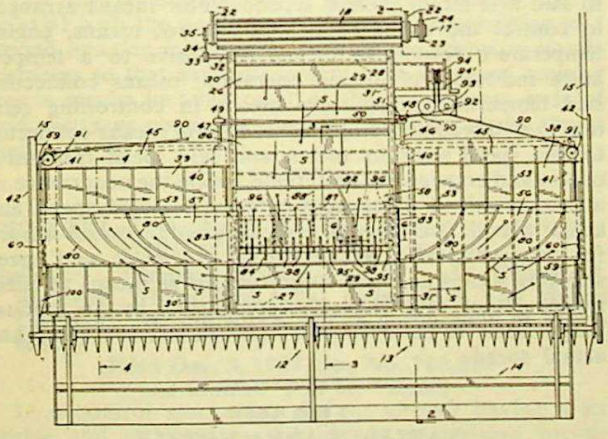
which is disposable in two optional positions providing selective centrifugal discharge of the removed ground borne material from the housing in two different optional directions in one of which said optional positions the impeller discharges the removed ground borne material centrifugally over the top of the exit selecting means in a direction generally upward from the housing and in the other of which said two optional positions the impeller discharges the removed ground borne material underneath the exit selecting means in a direction generally rearward from the housing.

2,999,347
SELF-PROPELLED COMBINE
Donald S. Horne, Robert Ashton, and Leslie L. Kepkay, all of Toronto, Ontario, Canada, assignors to Massey-Ferguson Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed June 24, 1958, Ser. No. 744,156
17 Claims. (Cl. 56—21)



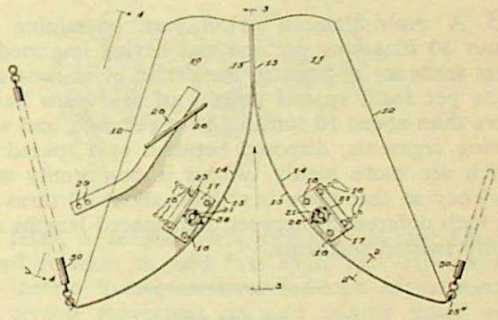
1. A self-propelled combine comprising, in combination, a wheeled frame having thereon units for performing conventional harvesting and treating operations, an operator's platform and source of power disposed on said frame at substantially a common level, said source of power including an enclosure having a filtering air intake, and power transmission means coupling said source of power to said harvesting and treating units.

2,999,348
WINDROWER MECHANISM
Arthur Raymond Cunningham, Chicago, Ill., assignor to Cunningham & Sons, Chicago, Ill., a partnership
Filed Apr. 20, 1959, Ser. No. 807,616
12 Claims. (Cl. 56—23)



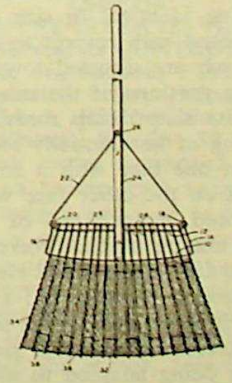
1. A hay windrower mechanism comprising a support adapted to travel along a field, an endless apron having forward and rearward, horizontally extending guide members rotatably mounted on said support, about which guide members said apron is trained for movement of an upper reach thereof rearwardly of the direction of travel of said support, a further endless apron at a side of said first named apron having spaced guide members extending in the general direction of said support travel about which said further apron is trained for movement of its upper reach toward said first named apron, a drag structure having means mounting the same on said support in position above said first named and further aprons, and means to drive said aprons for said respective movements of the upper reaches thereof, said aprons and drag structure having elements thereon causing hay deposited thereon to move inwardly toward and on said first named apron while reversing the direction of disposition of the stems of the hay, said drag structure comprising a drag plate above said further apron and a drag plate above said first named apron adjustable longitudinally in relation to said first plate.

2,999,349
GRASS AND WEED DEFLECTING ATTACHMENT FOR COTTON PICKERS
N T Nichols, Jr., P.O. Box 1463, Belzoni, Miss.
Filed Feb. 1, 1960, Ser. No. 6,006
5 Claims. (Cl. 56—28)



1. A grass and weed deflecting attachment for a cotton picker including a frame, picking spindles and guide fingers; comprising a pair of plates disposed beneath said spindles and said guide fingers, said plates being pivotally supported by said frame at opposite sides laterally with respect to said spindles and said fingers and having adjacent edges including straight portions and curved portions, and means cooperating with said frame and said plates for yieldably retaining said straight portions in contact.

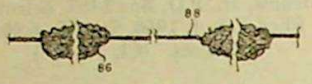
2,999,350
TINE RAKE
Fred C. Dettman, 821 Carson Ave., Rochester, N.Y.
Filed Aug. 3, 1959, Ser. No. 831,361
2 Claims. (Cl. 56—400.17)



1. A lawn rake comprising a frame having means for supporting a plurality of tines, a plurality of spaced

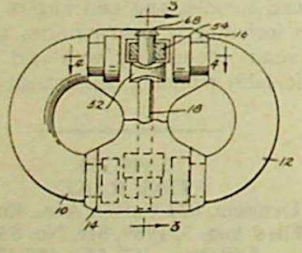
spring flat cross sectioned tines extending in splayed arrangement from said supporting means in a common plane, the free ends of said tines having downwardly curved ends extending out of said plane, and having their tip ends terminating along an arc of relatively long radius, a section of wire mesh secured across the underside of the free ends of said tines and disposed on the concave side of the curved ends thereof, said mesh having a curved marginal edge disposed short of the end tips of said tines, and said mesh being flexibly bound to said tines, and underlying said tines and extending rearwardly along the tines to the frame.

2,999,351
BULKY YARN
T B. Davenport and Alfred G. New, Greenville, S.C., assignors to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed July 17, 1956, Ser. No. 598,353
7 Claims. (Cl. 57—140)



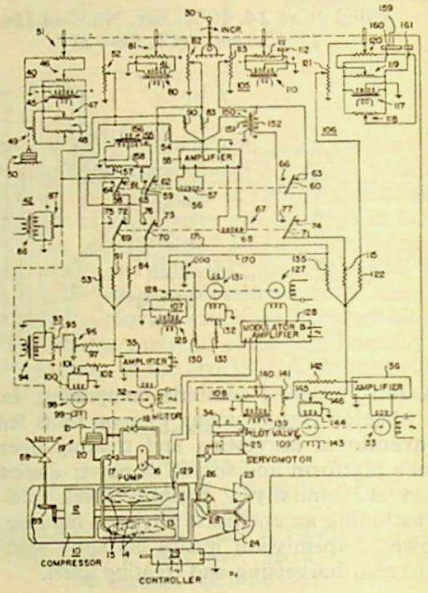
5. A multi-filament nylon yarn containing at least about 10 filaments per end and having imparted thereto a set tendency to twist to the extent of at least about 40 turns per inch, spaced lengths of said yarn having not more than about 10 turns of twist per inch, and said yarn having segments, disposed between said spaced lengths, which are more highly twisted in conformity with said tendency so that there is at least about 40 turns of twist per inch differential between said spaced lengths and said highly twisted segments.

2,999,352
DETACHABLE CHAIN JOINING LINK
Charles D. Linnenbank, Media, Pa., assignor to Baldt Anchor, Chain & Forge Division of The Boston Metals Company, Chester, Pa., a corporation of Maryland
Filed Sept. 13, 1960, Ser. No. 55,769
3 Claims. (Cl. 59—87)



1. A detachable chain link, comprising: a pair of oppositely disposed U-shaped end elements, each of said end elements being identical in size and shape to the other and so disposed with respect to the other that the leg portions of each are directed towards and in alignment with the leg portions of the other, a pair of substantially hour-glass shaped cap members, each of said cap members being of substantially identical shape and being provided on one face with a smoothly contoured outer surface, and on the other face with a mating surface, means disposed at each end of each of said cap members on the mating surface thereof for releasably holding the leg portions of said end elements, means defining a pair of spaced recesses and a pair of similarly spaced projecting lugs on the mating surface of each of said cap members, said recesses and said lugs on one of said cap members being adapted to mate with the corresponding lugs and recesses, respectively, on the other of said cap members when both are in mating relationship, said mated pairs of said lugs and recesses lying substantially between respective aligned pairs of leg portions of said end elements, means defining a hole through said cap members when in mating relationship, said hole passing through the lugs on both of said cap members, and pin means removably disposed within said hole to releasably secure said cap members together.

2,999,353
INTERRELATED MAIN FUEL CONTROL AND NOZZLE AREA CONTROL
Eduard C. Petry and Orville J. Underwood, Minneapolis, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed July 15, 1950, Ser. No. 174,022
25 Claims. (Cl. 60—35.6)



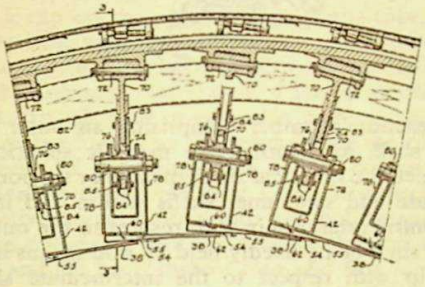
1. Control apparatus for a variable speed combustion engine having fuel flow control means and exhaust gas flow control means, the combination comprising, engine speed selecting means, engine speed responsive means, first motor means arranged to control the fuel flow control means, means connecting said speed selecting means and said speed responsive means in controlling relation to said first motor means, second motor means arranged to control the exhaust gas flow control means, engine temperature responsive means responsive to a temperature indicative of engine operation, means connecting said temperature responsive means in controlling relation to said second motor means, control means connected to said speed selecting means and said speed responsive means and arranged to be actuated upon the occurrence of a predetermined differential between selected speed and actual speed, and means including said control means for connecting said second motor means to said speed selecting means and said speed responsive means to effect movement of said second motor means by an amount proportional to the difference between selected speed and actual speed.

2,999,354
VARIABLE AREA NOZZLE
Elia A. Gallo, Englewood, and William F. Payne, Cedar Grove, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed July 18, 1956, Ser. No. 598,612
14 Claims. (Cl. 60—35.6)

1. A nozzle construction comprising a plurality of circumferentially-spaced nozzle members each having one

longitudinal edge contacting and circumferentially overlapping a portion of the inner surface of the adjacent nozzle member so as to form a nozzle of substantially circular cross-section; means pivotally supporting the upstream ends of said nozzle members such that the pivot axis of each nozzle member is perpendicular to a plane including its said longitudinal edge and the axis of said nozzle.

10. A convergent-divergent fluid nozzle comprising a plurality of pairs of nozzle members with each pair of nozzle members being pivotally connected in end-to-end relation to form upstream and downstream members and with the upstream nozzle members being pivotally supported at its upstream end, the upstream and downstream nozzle members being disposed to form the convergent and divergent portions respectively of the nozzle and each upstream nozzle member having one longitudinal edge circumferentially overlapping the adjacent upstream nozzle member to provide said upstream nozzle portion with a substantially circular cross-section and each downstream nozzle member having one longitudinal edge cir-



cumferentially overlapping the adjacent downstream nozzle member to provide said downstream nozzle portion with a substantially circular cross-section; a plurality of circumferentially overlapping shroud members, forming a substantially annular shroud about said nozzle; first axially movable annular means co-axial with the nozzle; means pivotally connecting the upstream end of each shroud member to said first annular means; means connecting said shroud members with the downstream nozzle members so that axial movement of said annular means results in adjustment of the downstream ends of said shroud members and of said downstream nozzle members to simultaneously adjust, in the same direction, the area of the downstream end of the shroud and the nozzle exit area; second axially movable annular means co-axial with the nozzle; and means interconnecting said second annular means with each of the upstream nozzle members so that axial movement of said second annular means results in adjustment of the downstream ends of said upstream nozzle members to adjust the nozzle throat area.

2,999,355

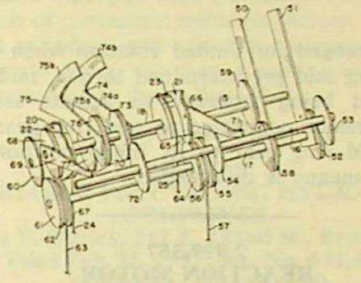
CONTROL APPARATUS FOR AIRCRAFT HAVING THRUST REVERSING MEANS

Arthur L. Fishpaw, Baltimore, Md., and Gilbert P. McAvoy, Winter Park, Fla., assignors to The Martin Company, Middle River, Md., a corporation of Maryland

Filed Dec. 3, 1957, Ser. No. 700,374
13 Claims. (Cl. 60—35.54)

1. A control mechanism for an aircraft having a jet engine and a thrust reverser means, comprising throttle control means movable through a range of positions from minimum power position to full power position, thrust reverser control means movable through a range of positions from minimum reverse position to full reverse position, and throttle advance means operated in accordance with operations of said thrust reverser control for setting minimum positions for said throttle control consistent with the position of said thrust reverser control in order to obtain sufficient thrust for effective operation of said thrust reverser means, and afterburner, and afterburner control means, in which cut-off means are operatively connected with said reverser control and are operative upon movement of said reverser control to actuate said afterburner control means to an "off" condition prior to actuation of the aircraft thrust reverser means.

12. A control mechanism for a multi-engine aircraft having thrust reverser means associated with its engine comprising a housing, a first shaft disposed in said housing, a throttle lever for each engine mounted for pivotal movement on said shaft, each throttle lever extending through a respective elongated slot in said housing and having handle means thereon to be manually grasped, each throttle lever being movable along its slot for a substantial number of degrees of movement in order to control the speed of its respective engine, a throttle advance arm for each engine mounted for pivotal movement on said shaft and positioned axially adjacent a



throttle lever, a second shaft disposed in said housing in spaced relation to said first shaft and substantially parallel thereto, a reverser lever for each engine mounted for pivotal movement on said second shaft, each reverser lever extending through a respective elongated slot in said housing and being movable through a substantial number of degrees of movement in order to control the amount of thrust reversing effect of each engine, gear means interconnecting said reverse levers with respective throttle advance arms for each engine, said throttle advance arms having means interengageable with said throttle levers, whereby upon movement of respective ones of said reverse levers toward full reverse positions, the respective throttle advance arms engage respective ones of said throttle levers and advance them toward full power positions, and throttle retarding levers disposed on said first shaft adjacent respective ones of said throttle levers for moving said throttle levers in the throttle retarding direction in the event said throttle levers are advanced too far along their respective elongated slots for the proper use of said reversing means.

2,999,356

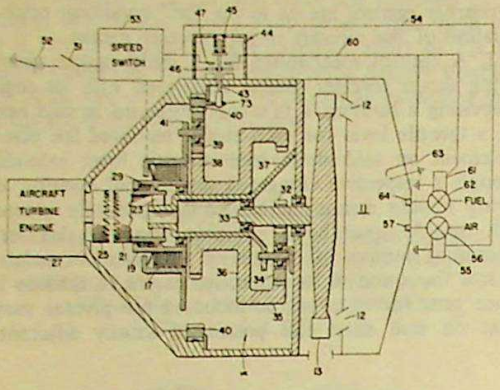
COMBUSTION STARTER HAVING TORQUE SENSING CONTROL

John H. Ferguson, Jr., Saquoit, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Filed Feb. 3, 1958, Ser. No. 712,729
5 Claims. (Cl. 60—39.14)

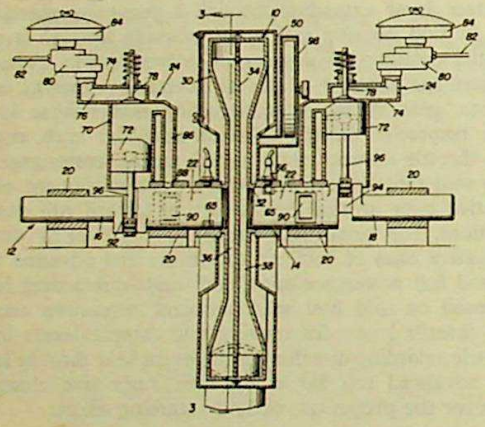
1. A combustion starter comprised of a combustion chamber having an igniter, fuel supply means and air supply means, a turbine arranged to be driven by gases from said chamber and operably connected by a two-stage planetary gearing and coupling means to drive an aircraft turbine engine, said air supply means including a source of pressurized air and being arranged to air-motor the starter so that an appreciable driving torque is transmitted through the starter, control means arranged to sense when the starter is transmitting torque of a predetermined low value, said control means when sensing said torque being arranged to energize said igniter and

to operate said fuel supply means and further permit the supply of air from said air supply means so that combustion gases are automatically supplied to said turbine only when the starter is transmitting said predetermined torque, said planetary gearing including a second stage



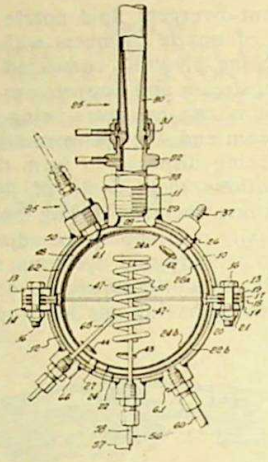
ring gear arranged for limited rotation when the starter is transmitting said predetermined torque, said ring gear when rotated being arranged to actuate said control means and means connected to said ring gear arranged to return said ring gear to its initial position whereby said control means is de-actuated.

2,999,357
REACTION MOTOR
Albert W. Elling, Rte. 2, Hampton, Iowa
Filed Sept. 16, 1958, Ser. No. 761,381
17 Claims. (Cl. 60—39.34)



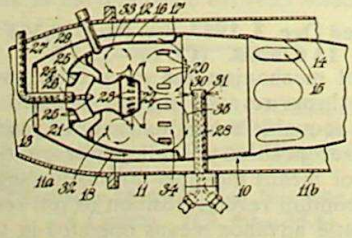
1. A reaction motor of the internal combustion type comprising a shaft, means supporting said shaft, a reaction rotor supported upon said shaft and mounted for rotation about the axis of said shaft, said rotor including a body having a pair of combustion chambers therein, means for delivering combustible mixtures to each of said chambers, a reaction nozzle mounted upon said body and projecting therefrom radially of the shaft axis and having its outlet directed rearwardly of the direction of rotation of said body, said nozzle including passageways each separately communicating a combustion chamber with said outlet, said shaft including a pair of alined sections, said body being disposed between and mounted upon the adjacent ends of said sections, said sections including each a passage means delivering a combustible mixture to one of said chambers, each section having an igniter mounted adjacent thereto and having means for communicating said igniter with a chamber intermittently in timed sequence for igniting a combustible mixture therein.

2,999,358
REACTION CHAMBER FOR MONOPROPELLANT OR BIPROPELLANT FUELS
Eugene B. Zwick, Pacoima, Calif., assignor, by mesne assignments, to Sundstrand Corporation, a corporation of Illinois
Filed Oct. 21, 1957, Ser. No. 691,301
6 Claims. (Cl. 60—39.46)



1. A reaction chamber comprising an outer metallic spherical shell, an intermediate metallic spherical shell, an inner metallic spherical shell, means for supporting said intermediate and said inner shells within and in spaced and concentric relationship with respect to the outer shell, said inner shell being fixedly held by said means in spaced relationship with respect to the intermediate shell, the outer surface of said inner shell and the inner surface of said intermediate shell forming a spherical exhaust duct, said intermediate shell being also held by said means in spaced relationship with respect to said outer shell, the space between the intermediate shell and the outer shell providing a gas-filled insulation jacket for said inner shell, a plurality of injection nozzles randomly distributed around the outer shell, said nozzles injecting fuel in the form of a fine spray into the inner shell, a plurality of unrestricted orifices provided in said inner shell, said orifices being of greater diameter than the tips of said nozzles, said orifices being in concentric relationship with respect to the respective nozzles, and an exhaust duct connected to said spherical duct through said intermediate shell for conveying the products of reaction from said inner shell through said orifices and through said spherical duct and into said exhaust duct.

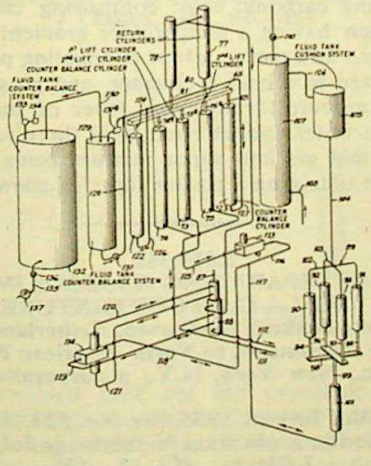
2,999,359
COMBUSTION EQUIPMENT OF GAS-TURBINE ENGINES
Frederick Reginald Murray, Newstead Abbey, Linby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Apr. 24, 1957, Ser. No. 654,967
Claims priority, application Great Britain Apr. 25, 1956
9 Claims. (Cl. 60—39.65)



1. Gas turbine engine combustion equipment comprising an air casing structure, a flame tube structure housed

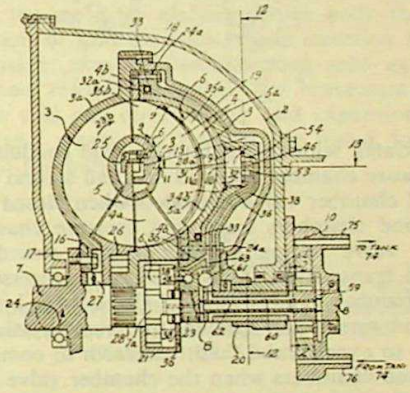
within the air casing structure, said flame tube structure having walls spaced from the air casing structure to provide an air receiving space externally of the flame tube structure and to provide a combustion space internally of the flame tube structure, which combustion space has an upstream end and a downstream end, said flame tube walls including a tubular upstream wall portion having an air inlet at its upstream end and a tubular member with a domed end facing the air inlet, said tubular member being supported coaxially within the upstream wall portion in spaced relation thereto and encircling a first and upstream region of the combustion space and a second region of the combustion space immediately downstream of the first region, first air inlet means having outlets therefrom into the combustion space at its upstream end, said air outlets directing a first air flow transversely to the centre line of the flame tube structure into the first and upstream region of the combustion space thereby to produce in said upstream region a first air mass having a swirl in a first direction of rotation, said first air inlet means comprising a tube extending from the domed end coaxially within the tubular member, said tube having an open inlet end facing the air inlet of said upstream wall portion, a cap on the opposite end of the tube, said cap being provided with laterally facing outlet holes through which air is directed transversely to the centre line of the flame tube into said first region of the combustion space, and said first air inlet means also comprising a hollow spider member having an upstream facing air inlet thereto and a series of radiating arms having outlets into said first region of the combustion space, first fuel injection means delivering liquid fuel into said hollow spider member to be conveyed with air flowing through the spider member and the arms thereof into said first region of the combustion space to produce a substantially stoichiometric fuel/air mixture, a second air inlet means delivering air into the second region of said combustion space which is immediately downstream of said first region, said second air inlet means comprising outlet holes in said tubular member at a position downstream of said cap which outlet holes face the centre line of the flame tube and direct air transversely of the centre line of the flame tube structure to produce in said second region a second mass of air swirling in a direction opposite to the first air mass, and second fuel injection means injecting fuel into the second air mass.

2,999,360
HYDRAULIC PUMP APPARATUS
August F. Habenicht, 17221 67th Court, Tinley Park, Ill.
Filed May 26, 1959, Ser. No. 816,012
4 Claims. (Cl. 60—51)



1. In a hydraulic system, a first lift cylinder, a second lift cylinder and a return cylinder each equipped with a piston reciprocable therein for connection with a work element to reciprocate the same through a cycle of operation, a hydraulic circuit for said cylinders and having a pressure side and a return side, a control valve for selectively connecting the return cylinder to the pressure side of said circuit and the first lift cylinder and second lift cylinder to the return side of said circuit or for connecting the return cylinder to the return side of said circuit and the first and second lift cylinders to the pressure side of said circuit, an energy storage and release cushion connected to said circuit intermediate the connections of said first and second lift cylinders thereto, a uni-directional flow valve interposed in said circuit intermediate such connection of said cushion and first lift cylinder thereto, said uni-directional valve being a positively operated valve operative in one condition thereof to permit the flow of fluid from the pressure side of said circuit to said second lift cylinder but operative in other condtion thereof to prevent the return flow of fluid therethrough and to direct it into said cushion, a counter-balance cylinder having a piston reciprocable therein for connection with such work element to bias the same in the direction of movement enforced thereon by actuation of said lift cylinders, and means for maintaining a relatively constant force upon said counter-balance piston to effect such biasing force thereof.

2,999,361
VARIABLE VOLUMETRIC HYDRAULIC COUPLINGS
Ambrose E. Zierick, 212 E. 182nd St., Bronx 57, N.Y.
Filed Feb. 25, 1957, Ser. No. 641,999
10 Claims. (Cl. 60—54)

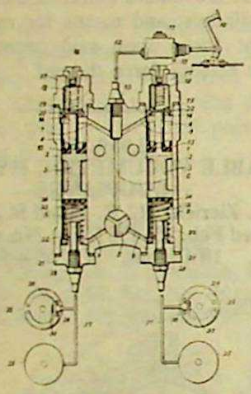


9. A hydraulic coupling of the character described, comprising an impeller connected to a driving shaft, a first turbine section connected to a driven shaft facing said impeller, said first turbine section having vanes defining open ended buckets, a second turbine section having vanes and a wall supporting said vanes, said vanes and said wall defining bucket portions, closed at one end, means mounting said second turbine section for sliding movement against a side of said first turbine section, means oscillating said second turbine section slidably over said side of said first turbine section for bringing the bucket portions thereof in and out of register with the buckets of said first turbine section.

2,999,362
AUTOMATIC SAFETY DEVICE FOR HYDRAULIC BRAKE
Yoshio Kinoshita, 4 Kawashima-cho, Nakano-ku, Tokyo, Japan
Filed Sept. 4, 1958, Ser. No. 759,046
2 Claims. (Cl. 60—54.5)

1. A safety arrangement for a hydraulic braking system comprising in combination, a housing; at least one pair of

spaced apart cylinders in said housing; a piston mounted for reciprocation in each of said cylinders dividing each of said cylinders into a first chamber located towards the one end and a second chamber located towards the other end of said cylinder; a cup shaped lid over said first chamber; a second lid defining the end of said second chamber; elongated movable stop means extending from said piston the length of said first chamber adapted to engage the far end of said chamber, said stop means normally limiting the upward thrust of said piston in said first chamber; a ring valve seat almost at the far end of said first chamber, said elongated stop means passing therethrough; valve means adapted to engage said valve seat partially preventing fluid flow therethrough, said valve means straddling said elongated stop means and defining the far end of said first chamber, the far end of said elongated stop means normally engaging said valve means; a top spring expandably biased between the top of said cup-shaped lid and said valve means normally closing said valve partially preventing fluid flow and holding said stop means; a second spring in said second chamber biasing said piston towards said first chamber; a fluid master cylinder pressure cham-



ber associated with said cylinders; fluid conduits between said pressure chamber and said first and second chambers; a second chamber valve adapated when closed to isolate said second chambers from said pressure chamber, said chamber valve normally being in said closed position; means to transmit the fluid pressure compressed in said second chamber to a mechanical element for braking purposes; and means for applying pressure to said pressure chamber to expel brake fluid therefrom to completely fill said second chambers when the chamber valve is in open position and to only fill the space between the piston and the valve means in the first chambers, so that when brake pressure is applied to said pressure chamber when the chamber valve is closed, said pressure is transmitted by said fluid conduits only to said first chambers, the fluid pressure therein thereupon pushing upon said piston which in turn forces braking pressure to be transmitted to said mechanical elements for braking purposes, but when said brake fluid expands due to heat the valve means is opened thereby to provide a space for taking up the expansion, the fluid in the second chamber pushing against said piston which in turn pushes against said stop means and said top spring.

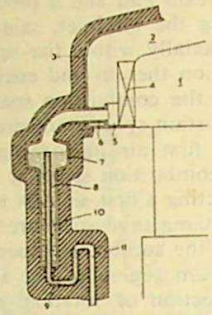
2,999,363

DOUBLE-WALLED PIPE FOR LIQUIFIED GAS

Johannes van der Ster, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 5, 1956, Ser. No. 595,900
Claims priority, application Netherlands July 9, 1955
6 Claims. (Cl. 62—6)

1. A cooled conduit for use with a cold-gas refrigerator provided with a condenser for condensing gas to form a condensation liquid comprising; a first pipe operatively connected to said condenser and extending downwardly for a substantial portion of its length, said first pipe having a widened portion adjacent to the end thereof closest to said condenser, a second pipe within said first pipe and having the upper end thereof terminating in the widened portion of said first pipe, said condensation



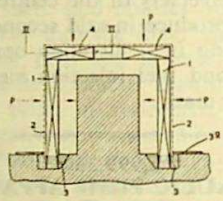
liquid forming on said condenser and being conducted to said first pipe whereby when said condensation liquid in said first pipe rises to a predetermined level in the widened portion of said first pipe it overflows into the upper end of said second pipe, the condensation liquid in said first pipe acting as an insulation for the condensation liquid in said second pipe, and an insulating wall surrounding said first and second pipes.

2,999,364

METHOD AND DEVICES FOR SEPARATING COMPONENTS FROM A GAS- AND/OR VAPOUR MIXTURE

Evert Hellingman, Cornelis Jacobus Marie van der Laan, and Klaas Roozendaal, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 18, 1958, Ser. No. 749,509
Claims priority, application Netherlands July 26, 1957
4 Claims. (Cl. 62—6)



1. A method of separating components from a gas and vapor mixture by cooling, said gas having impurities such as water and carbonic acid; comprising biulding up a layer of snow having a temperature gradient on a gauze wall arranged adjacent to a heat conducting plate, the latter being fixed to a heat exchanger, and passing said gas and vapor mixture through said layer of snow to separate out the water and carbonic acid therefrom, the rate of feeding said gas and vapor mixture being at most 10 cm./sec. for obtaining a porous layer of snow.

2,999,365

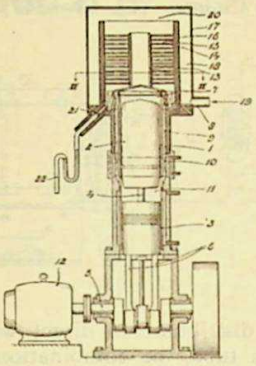
METHOD OF SEPARATING GASEOUS IMPURITIES FROM A GASEOUS MIXTURE

Cornelius Otto Jonkers, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 25, 1955, Ser. No. 524,183
Claims priority, application Netherlands July 24, 1954
2 Claims. (Cl. 62—12)

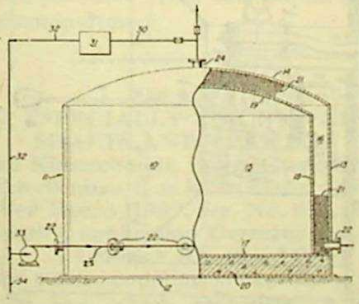
1. A method of separating from a mixture of gases wherein a heat exchanger having said gases passing there-

through, is provided with a supporting member which is operatively connected to a thermal sink, a plurality of apertured plates mounted in spaced relationship on said supporting member and extending at right angles thereto, and a housing engaging the peripheral edges of said projections for enclosing the same, said housing having an inlet port at the hotter end of said heat exchanger where the gas mixture is admitted and an outlet port at the colder end thereof where the gas mixture is discharged, said thermal sink being adjacent to the outlet port adjacent to the colder end of the housing, said thermal sink forming a cold source for said housing, the apertures in successive plates being arranged in staggered relationship to each other, comprising the steps of introducing said



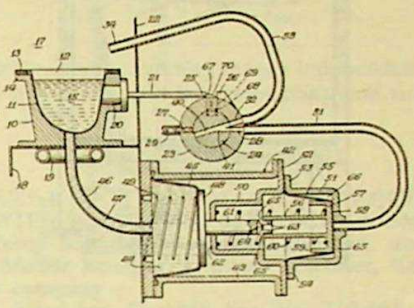
gaseous mixture into the inlet port of said heat exchanger at a pressure where the rate of flow speed is such that at least 0.1 gram of the gas mixture per second calculated on the basis of a volume of the gases entering said inlet port is transferred through each aperture of said plates at a mean velocity of at least 5 cm. per second, said projections being cooled such that each successive plate is at a maximum temperature of 10° to 20° C. less than the next preceding plate in a direction toward the outlet port, and the plate at which said separation is effected being at a temperature between 10° to 20° C. below the separation point of said gas to be separated thereby substantially preventing the formation of ice grains in the medium and causing the water and carbon dioxide to settle on said projections.

2,999,366
INSULATED CRYOGENIC STORAGE TANK
Ivan V. La Fave, Oak Lawn, and Ivan L. Wissmiller, Chicago, Ill., assignors to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 19, 1958, Ser. No. 781,675
7 Claims. (Cl. 62—45)



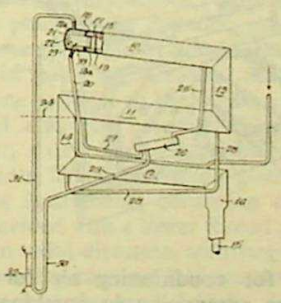
5. An insulated tank for the cryogenic storage of liquids comprising an inner fluid-tight storage vessel, an outer housing spaced apart from said inner vessel to provide an annular space, a light weight fluidizable insulating material substantially filling said annular space, gas distribution means including peripherally spaced inlet nozzles penetrating said outer housing adjacent the bottom thereof and terminating within said annular space, and gas outlet means penetrating said outer housing located in the top portion of said annular space, and means for supplying a gaseous fluidizing medium to said gas distribution means from a source exterior to said tank.

2,999,367
HOME APPLIANCE
Leonard M. Stanulis, Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 5, 1959, Ser. No. 797,409
8 Claims. (Cl. 62—139)



1. Apparatus for freezing ice bodies, comprising: a mold for freezing an ice body therein; means forming a chamber expansible under internal pressure; a supply of freezable liquid under pressure; means directing liquid from said supply into the chamber for expansion thereof; a movable member operatively connected to the interior of the mold for ejecting an ice body therefrom on movement of said member in one direction from an initial position; means interconnecting said expansible chamber and movable member for movement of the member in said one direction on said expansion of the chamber; and means for transferring liquid from said chamber to the mold.

2,999,368
HOME APPLIANCE
Walter E. Schomburg, Philadelphia, Pa., assignor to Whirlpool Corporation, a Delaware corporation
Filed Nov. 23, 1959, Ser. No. 854,655
7 Claims. (Cl. 62—272)



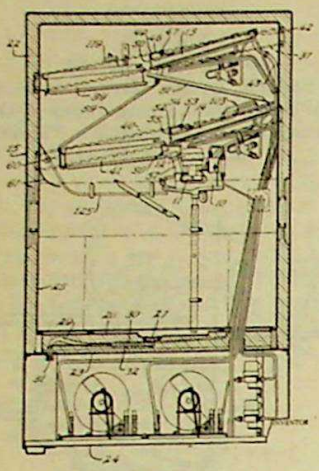
1. In an absorption refrigeration system including a tubular evaporator having a wall, a conduit for liquid refrigerant and a tubular conduit for inert gas each having an outlet emptying into the evaporator, defrosting apparatus, comprising: means for defrosting the evaporator during a defrost cycle including a conduit for hot liquid refrigerant emptying into the evaporator; and means in the tubular evaporator cooperating with said wall to form a sump receiving said hot liquid, the gas outlet having at least a major portion thereof beneath the top of the sump to be at least partially blocked by liquid in said sump.

2,999,369

TANDEM PLATE AUTOMATIC ICE CUBE MAKER

Donald F. Swanson and Edmund J. Buzicky, St. Paul, Minn., assignors to Whirlpool Corporation, a corporation of Delaware

Filed June 4, 1956, Ser. No. 589,123
3 Claims. (Cl. 62—320)



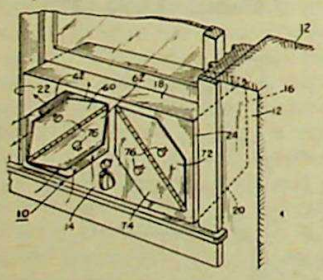
1. An ice cube making apparatus including a pair of inclined substantially parallel freezing plates arranged with one above the level of the other, ice cube cutting means positioned adjacent to the lower end of said plates to receive slabs of ice sliding from said plates, water circulating means, said water circulating means including a pump having an inlet and an outlet, means connecting the outlet of said pump with the upper end of the upper of said refrigerator plates, and means guiding liquid from the lower edge of the upper plate to the upper edge of said lower plate.

2,999,370

AIR CONDITIONING APPARATUS

Arthur H. Eberhart, Hilliard, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 11, 1960, Ser. No. 48,937
9 Claims. (Cl. 62—325)



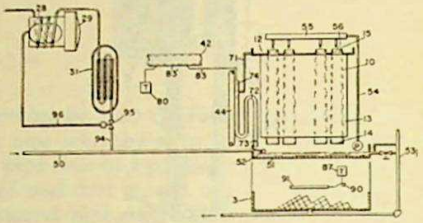
1. Apparatus for conditioning air for an enclosure within a building comprising in combination, a casing including a first wall and a second wall; said casing being provided interiorly with two compartments each extending between said first and second walls; a condenser in one of said compartments and means for supplying air thereto; an evaporator in the other of said compartments and means for supplying air thereto, said condenser and said evaporator dividing their respective compartments into inlet and outlet chambers each of which extends from the first wall to the second wall and is triangular in cross section; said first wall having openings formed therein providing communication between the respective chambers and the enclosure, said second wall having openings formed therein providing communication between the respective chambers and the air outdoors; and closures for the openings to said chambers adapted to open the inlet chambers either to the enclosure or to the air outdoors and to open the outlet chambers either to the enclosure or to the air outdoors.

2,999,371

ICE CUBE MAKERS

David E. MacLeod, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Original application July 1, 1950, Ser. No. 171,593, now Patent No. 2,775,098, dated Dec. 25, 1956. Divided and this application June 1, 1956, Ser. No. 588,820
4 Claims. (Cl. 62—347)



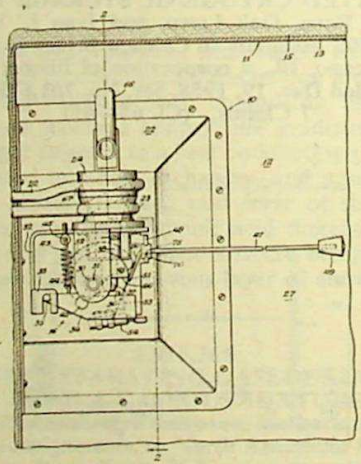
2. In a water distributor to direct water against the interior wall of a tube, the combination of an element disposed in a substantially horizontal plane against which the stream of water is directed, protuberances extending from opposite sides of the element to space the element from the interior wall of the tube, legs extending upward from the remaining sides of the element terminating in flanges adapted to rest upon the end of the tube, each leg including a portion extending upward and inward from the element, a second portion connected to the first portion extending upward and outward therefrom and a third portion connecting the second portion with the flange.

2,999,372

HOME APPLIANCE

Ernest A. Baillif, Evansville, Ind., and Robert W. Fink, Benton Harbor, Mich., assignors to Whirlpool Corporation, a corporation of Delaware

Filed May 13, 1959, Ser. No. 812,996
1 Claim. (Cl. 62—353)



In a refrigerator means: means defining a chamber having a recess in said chamber defining means; means providing refrigerant to a point adjacent said chamber defining means; an ice making apparatus including a peripherally grooved mold, said apparatus including a

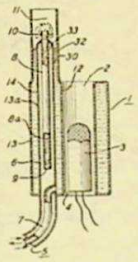
first portion receivable in said recess, a second portion including said mold receivable in said chamber and a third portion securing said ice making apparatus on the chamber defining means and insulatingly closing said recess; and a conduit extending from said refrigerant providing means at said point into fitted encircling relationship with said mold in the grooves thereof.

2,999,373

GENERATOR ASSEMBLY FOR ABSORPTION REFRIGERATING SYSTEM OF THE PRESSURE-EQUALIZED GAS TYPE

Hans Stierlin, Rainweg 15, Schlieren-Zurich, Switzerland

Filed Jan. 30, 1959, Ser. No. 790,187
Claims priority, application Switzerland Feb. 12, 1958
9 Claims. (Cl. 62—497)



1. A generator for gas-equalized refrigeration systems comprising a chamber having a first compartment at its lower region and a second compartment extending from the bottom to the top of the chamber and enveloping the first compartment, a heat exchanger of the counterflow type having coaxial inner and outer tubes, the outer tube containing liquid solution high in absorbed refrigerant and being connected to the bottom region of the first compartment, the inner tube of the heat exchanger containing liquid solution low in absorbed refrigerant and connected to the bottom region of the second compartment, a pump tube extending vertically through the second compartment with its lower end opening into the top region of the first compartment, heating means for directly heating the solution low in absorbed refrigerant within the second compartment, the heating means positioned remote from the pump tube, the heated solution low in absorbed refrigerant in turn heating the solution high in absorbed refrigerant within the first compartment to release refrigerant vapor from the latter solution, a rectifier tube connected to the upper end of the second compartment, the upper open end of the pump tube being above the level of the liquid solution in the second compartment, and means heat isolating the pump tube for at least a substantial portion of its length within the solution of the second compartment from such liquid solution within the second compartment.

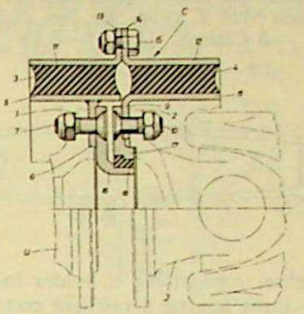
2,999,374

COUPLING, ESPECIALLY FOR UNIVERSAL JOINT SHAFTS AND THE LIKE

Hans-Joachim Kleinschmidt, Essen, Germany, assignor to Gelenkwellenbau G.m.b.H., Essen, Germany

Filed Dec. 3, 1959, Ser. No. 857,154
Claims priority, application Germany Jan. 27, 1959
3 Claims. (Cl. 64—11)

1. A rubber elastic coupling system for universal joint shafts and the like, which comprises: a first member with a first flange, a second member to be coupled to said first member and having a second flange, a first annular rubber element connected to said first flange, a second annular rubber element connected to said second flange, a first profiled ring connected to said first flange, a second profiled ring connected to said second flange, centering ring means interposed between said first and second profiled rings for centering the same with regard



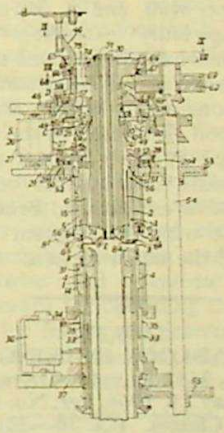
to each other, and connecting means independent of said centering ring means and interconnecting said rubber elements.

2,999,375

CIRCULAR KNITTING MACHINES EQUIPPED WITH WRAP THREAD MECHANISM

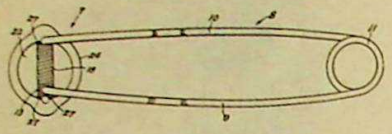
Alfred Percy Saunders, Leicester, England, assignor to Wildt Mellor Bromley Limited, Leicester, England, a British company

Filed Jan. 22, 1958, Ser. No. 710,461
Claims priority, application Great Britain Jan. 28, 1957
9 Claims. (Cl. 66—135)



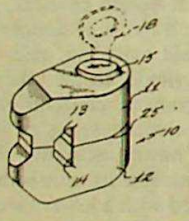
1. A circular knitting machine comprising, in combination, a bottom plain needle cylinder, a superimposed top rib needle cylinder, a circle of double-ended latch needles for operation in said cylinders, said needles being transferable from one cylinder to the other, a cylindrical wrap instrument bed arranged concentrically within said top needle cylinder, a circular series of individually movable wrap instruments having actuating butts in said instrument bed, said instruments consisting of blade-like elements each provided with a lower thread guiding extremity extending in an axial direction with respect to the needle cylinders, means for moving said instruments radially to carry threads across the needle circle, means for producing relative movement between the thread guiding extremities and the adjacent ends of predetermined needles in the bottom needle cylinder to wrap threads around said needles and produce embroidery plating effects on the face of knitted fabric, a system of control cams for controlling movements of said wrap instruments during the wrapping of wale threads around desired needles, and means for displacing said wrap instruments lengthwise from a first height at which they are normally inoperative with their thread guiding extremities withdrawn to a second height at which the actuating butts on the instruments are acted on by said control cam system.

2,999,376
FLAT FILE HOODED GAS LIGHTER
Richard H. Haneberg, % G. C. Fuller Mfg. Co., 5285 Crookshank Road, Cincinnati 38, Ohio
Filed May 3, 1960, Ser. No. 26,575
3 Claims. (Cl. 67—6.1)



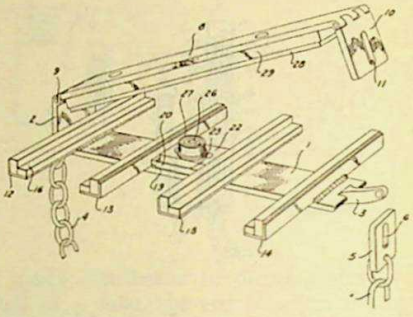
1. A gas lighter comprising a holder including a pair of coextensive arms having a resilient connection at one of their ends for relative swinging movements of said arms, one of the arms having an upturned free end for mounting a pyrophoric element, the free end of the other arm having an offset portion extending upwardly therefrom substantially normal to the plane of the arms, a straight portion connected to the upper end of the offset portion and extending laterally therefrom with its axis lying in an offset plane parallel to the plane of the arms, a terminal portion connected to the end of the straight portion and extending downwardly in parallelism with the offset portion, a flat file disposed parallel to and adjacent the straight portion and having a notch formed centrally in each of its end edges, said notches respectively engaging the inner surface of the offset portion and the terminal portion of the holder, a gas retaining hood having a top wall and a marginal, downturned skirt, parallel, upwardly extending and confronting grooves stamped internally in opposed sides of the downturned skirt and receiving the outer surfaces of the offset and terminal portions of the holder, and a lug struck in the body of the hood from each of the two external corner portions formed by the skirt and each groove, said lugs projecting toward one another across the internal mouth of each groove and located beneath and in overlapped engagement with the adjacent end edge of the file on each side of the notch therein.

2,999,377
PADLOCK HOUSING
Royce L. Raye, 1652 Perryton Drive, Dallas, Tex.
Filed May 11, 1960, Ser. No. 28,477
2 Claims. (Cl. 70—32)



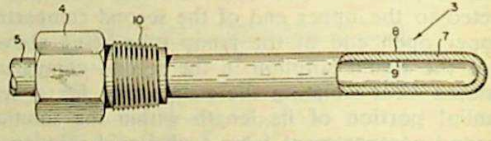
1. A padlock housing comprising in combination a male member including a relatively heavy housing having an inner face, a generally circular shoulder flange formed on said face and having a flat face on a portion of its circumference, a lock barrel in said housing, a threaded extension on said barrel extending from said inner face and through said shoulder flange, the inner face of said male housing member having an inwardly extending bore adjacent said extension, a female member comprising a second relatively heavy housing including a confronting inner face, a threaded socket therein for reception of said threaded extension, a generally circular countersink surrounding said threaded socket, said countersink having wall portions complementary to the wall portions of the shoulder flange on said male member and adapted to receive the same, a pin extending outwardly from the confronting inner face of said female member and extending into the bore in said male member, said shoulder flange and counter-sink and said pin and bore preventing relative rotation of said male and female members when in locked position, and a recess extending into at least one of said housings from the inner face thereof for the reception of an article to be locked.

2,999,378
SKI CLAMP
William B. Blair, 1006 Haron St., Anaheim, Calif.
Filed Jan. 23, 1961, Ser. No. 84,267
12 Claims. (Cl. 70—58)



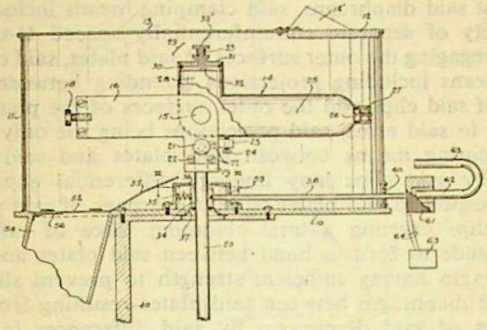
1. A ski clamp consisting of a base plate, a strap hingedly attached at one end to the base plate, means locking the other end of the strap to the base plate, two pairs of spaced angle members mounted on the base plate, each of the pairs of spaced angle members being adapted to receive a ski therebetween, said strap extending over both of the pairs of angle members, and a chain attached to the base plate.

2,999,379
GAS ANALYZING APPARATUS
Richard B. Beard, Philadelphia, Pa., and Elias Snitzer, Lowell, Mass., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 19, 1957, Ser. No. 641,150
1 Claim. (Cl. 73—23)



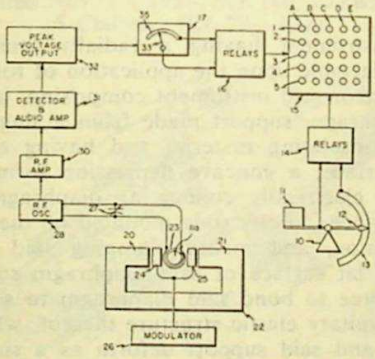
Apparatus for rapidly sensing the partial pressure of hydrogen in a heated atmosphere containing other gases upon a flow of hydrogen through said apparatus due to the rate of sorption of hydrogen into palladium being greater than the rate of sorption of hydrogen into nickel, said apparatus comprising, a nickel tube which sorbs hydrogen and through which hydrogen diffuses at high temperatures, a coating of palladium on one surface wall thereof, which coating sorbs hydrogen and through which coating hydrogen diffuses at high temperatures, a coating of palladium on the other surface wall of said nickel tube, which coating sorbs hydrogen and through which coating hydrogen diffuses at high temperatures, means supporting a portion of said tube in said heated atmosphere, means to bring the heated atmosphere into contact with one wall of said tube, and an outlet for gas from the other wall of said tube and adapted for connection to partial-pressure-sensing means.

2,999,380
DENSIMETER
George J. Thiessen and Ian R. Dagg, Ottawa, Ontario, Canada, assignors to National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
Filed Sept. 10, 1958, Ser. No. 760,244
Claims priority, application Canada July 29, 1958
7 Claims. (Cl. 73—32)



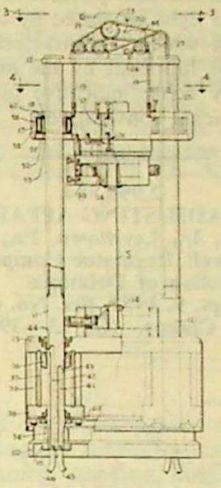
1. A densimeter comprising an assembly including a vessel for containing a liquid sample; means for continuously rotating said assembly about an axis of rotation, said vessel being asymmetrically disposed with respect to said axis; means resiliently mounting said assembly with freedom of oscillation transverse to said axis; and means for measuring the amplitude of any such oscillation.

2,999,381
NUCLEAR MAGNETIC RESONANCE MEASURING SYSTEM
Wilbert E. Chope and Frank M. Alexander, Columbus, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Apr. 23, 1958, Ser. No. 730,308
7 Claims. (Cl. 73—73)



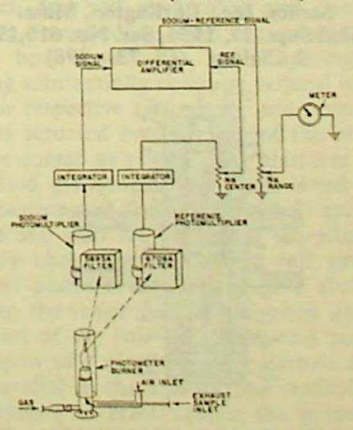
7. Apparatus for rendering measurements responsive to the ratio of a particular characteristic of a sample to the weight of the sample, comprising a scale for weighing the sample, nuclear magnetic resonance measuring apparatus for measuring said particular sample characteristic, means including an array of devices each to be operated in response to a particular ratio reading, means selectively actuated by said scale for preparing a different first group of said devices for operation in response to varying weight measurements of said sample, means actuated by said nuclear magnetic resonance measuring apparatus for selectively preparing for operation in response to varying measurements of said characteristic a different second group of said devices with each of said second groups including a device from each of said first groups, and means for operating any device common to both a prepared first group and a prepared second group to render thereby a ratio measurement for the sample under test.

2,999,382
TESTING MACHINE
John C. McClelland, Flourtown, Pa., assignor, by mesne assignments, to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1958, Ser. No. 721,384
12 Claims. (Cl. 73—93)



1. A specimen testing machine, comprising in combination, a base, a plurality of columns carried by said base, a crosshead movable along said columns, power means for moving the crosshead along the columns, friction column grippers and power gripper operating means carried by the crosshead for locking it at any point along the columns, a table crosshead slidably mounted for axial movement along said columns, power means for moving said table crosshead along the columns, and means on each of said crossheads for engaging a specimen and stressing it endwise between them, said column grippers including longitudinally extending radially flexible column clamping elements encircling the columns, means carried by said crosshead closely engaging the ends of said clamping elements and securely holding them against endwise axial movement on the crosshead, and said power means for operating the column grippers including means for forcing the intermediate portion between the ends of said clamping elements toward said columns completely around the circumference.

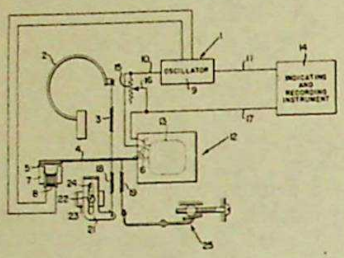
2,999,383
METALLIC TRACER METHOD FOR DETERMINING LUBRICANT IN ENGINE EXHAUST
Ford R. Bryan, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 2, 1960, Ser. No. 33,516
8 Claims. (Cl. 73—116)



1. The process of determining the substantially instantaneous lubricant consumption of an internal com-

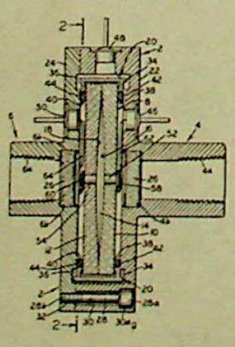
bustion engine which comprises establishing in the lubricant of the internal combustion engine a known concentration of a metallic compound which is soluble in the lubricant, operating the engine, abstracting from the exhaust stream of the engine a sample which constitutes a known fraction of the total exhaust stream, entraining this sample in a flame and photometrically determining the intensity of the light generated by the flame and having a wave length which is characteristic of the metal introduced into the lubricant by the metallic compound, said light intensity being indicative of the substantially instantaneous lubricant consumption.

2,999,384
ZERO ADJUSTING APPARATUS
Justin O. Johnson, Jr., Levittown, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,862
10 Claims. (Cl. 73—393)



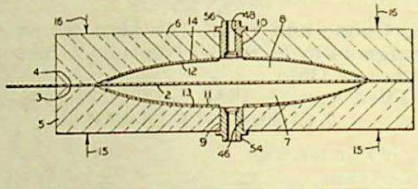
1. An ambient temperature compensated fine zero adjusting apparatus for a force balance system comprising, a stationary bracket, a screw means having its longitudinal axis vertically positioned for rotation on said bracket, a stud threadedly mounted on said screw means at one end and protruding through a vertical slot in said bracket at its other end, a pivot pin having its longitudinal axis protruding in a vertical direction from said bracket, a cam lever pivotally mounted on said pivot pin, said lever having at one of its ends a protruding tapered portion in contact with the outer peripheral portion of said stud, a biasing means having one of its end fixedly connected to said bracket and another end in contact with said lever to retain said lever in contact with said stud and a lug connected to the other end of said lever to apply very small incremental increases in tension to a zero spring means when said screw is rotated in one direction and/or to apply very small incremental decreases in tension to said zero spring when said screw is rotated in the opposite direction.

2,999,385
PRESSURE SENSING INSTRUMENT
Russell Wolfe, Lexington, Mass., assignor to Trans Sonics, Inc., Burlington, Mass.
Filed Sept. 17, 1956, Ser. No. 610,197
2 Claims. (Cl. 73—398)



2. Apparatus for sensing differential fluid pressure comprising, in combination, a pair of plates, said plates having opposing surfaces with opposing depressions formed therein, an electrically conducting diaphragm under radial tension disposed between said plates and against said opposing surfaces, electrodes structurally fixed to said plates and located within said depressions, said electrodes and said diaphragm thereby forming a differential capacitor whose capacitances depend upon deflection of said diaphragm in response to differences in the pressures on opposite sides thereof, means clamping said plates together against said diaphragm, said clamping means including a plurality of separate circumferentially spaced U-shaped clips engaging the outer surfaces of said plates, said clamping means including projections extending between each arm of said clips and the outer surfaces of the plates adjacent to said arms, said projections being the only force transmitting means between said plates and said clips, whereby said clips may undergo differential expansion with respect to said plates without warpage of said plates, said clips exerting a total clamping force of sufficient magnitude to form a bond between said plates and said diaphragm having sufficient strength to prevent slippage of said diaphragm between said plates resulting from deflection of said diaphragm by said differences in pressure, said plates having passages leading to their outer surfaces from said depressions.

2,999,386
HIGH PRECISION DIAPHRAGM TYPE INSTRUMENTS
Russell Wolfe, Lexington, Mass., assignor to Trans-Sonics, Inc., Lexington, Mass.
Filed Nov. 2, 1956, Ser. No. 620,051
15 Claims. (Cl. 73—398)

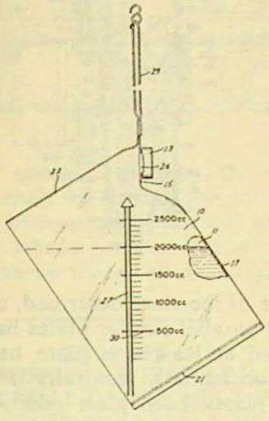


1. An instrument having a radially tensioned diaphragm deflectable upon the application of force perpendicular thereto, said instrument comprising, in combination, a diaphragm support made from a single piece of electrically insulating material and having a substantially flat surface, a concave depression formed in said surface, an electrically conducting diaphragm engaging said flat surface, an electrode mounted on the surface of said depression, and means clamping said diaphragm against the flat surface of said diaphragm support with sufficient force to bond said diaphragm to said support to form a unitary elastic structure thereof, whereby said diaphragm and said support deform as a single elastic body upon deflection of said diaphragm, there being essentially no slippage of said diaphragm along said flat surface, said diaphragm having a free span along its diameters between the areas at which it is clamped against said flat surface, and means for making electrical connection to said diaphragm and to said electrode.

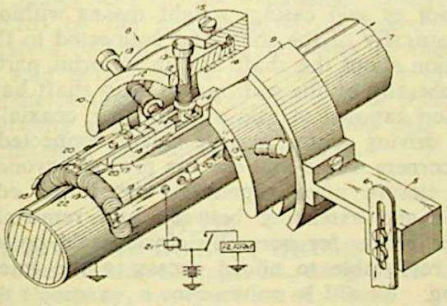
2,999,387
FLUID TIGHT CONTAINER
John Andelin, Los Angeles, Calif., assignor, by mesne assignments, to Falcon Plastics Company, Los Angeles, Calif., a corporation of California
Filed Feb. 16, 1959, Ser. No. 793,319
2 Claims. (Cl. 73—427)

1. A fluid tight container comprising a pair of substantially identical opposed rectangular front and back walls of flexible thermoplastic film material closed along one side and along the top and bottom thereof and par-

tially closed along the other side thereof except for a circular opening at the top of such other side, said opening extending from its upright diameter along opposite walls of the container, and a rigid tubular neck member of molded plastic provided with an integral peripheral flange, said flange being heat bonded to said front and back walls adjacent said circular opening whereby to facilitate the introduction to and discharge from said container through said neck member of liquids and particulate solids, said neck member having a removable cover for sealing said container and said flange portion of said neck member including an extension tongue directed upwardly from said member in the plane of said flange beyond the top of said container and to which the upper corner of said container is heat bonded.

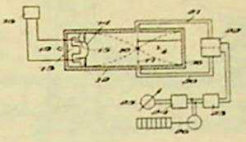


2,999,388
ELECTRICAL PROBE
Thomas F. Herron, Jr., Trenton, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 13, 1958, Ser. No. 773,630
5 Claims. (Cl. 73—432)



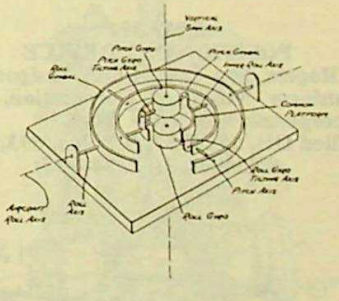
1. An electrical probe for detecting raised irregularities in a longitudinally moving elongated article having an electrically conductive surface which comprises an electrically conductive helical spring, a plurality of parallel conductive supports affixed and extending to one side of the spring, the spring being mounted on the supports in a substantially arcuate path extending transverse to the elongated article, a plurality of insulated support elements, one for each of the parallel conductive supports, affixed to respective ones of said supports, a rigid frame means for supporting the elements in contact with the article, the parallel conductive supports being affixed to the helical spring and to the elements to support the helical spring above the non-raised article surface and in spaced relation to the non-raised portion of the surface, alarm circuit means connected between one or more of the conductive supports and the conductive surface of the article, the helical spring being spaced from the article surface by the elements so that a predetermined raise in the surface level completes the electrical circuit and actuates the alarm.

2,999,389
GYROSCOPE DEVICE WITH VIBRATING GAS PARTICLES OR PARTICLES OF ANOTHER SOUND TRANSFERRING MEDIUM
Carl-Erik Granqvist, Lidingo, Sweden, assignor to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden
Filed Mar. 9, 1959, Ser. No. 798,037
Claims priority, application Sweden Mar. 10, 1958
16 Claims. (Cl. 73—505)



1. A gyroscopic device comprising a sound conductor containing a fluid sound conducting medium, means for generating a sustained, standing, longitudinal oscillation within said conductor, and means on opposite sides of a nodal point of said oscillation for measuring changes in pressure of said nodal point when said conductor is displaced in a direction perpendicular to said longitudinal oscillation.

2,999,390
NON-TUMBLING VERTICAL GYROSCOPE SYSTEM
Maurits ten Bosch, White Plains, and Paul Lang, Katonah, N.Y., assignors to M. ten Bosch, Inc., Pleasantville, N.Y., a corporation of New York
Filed July 7, 1958, Ser. No. 746,970
14 Claims. (Cl. 74—5.34)

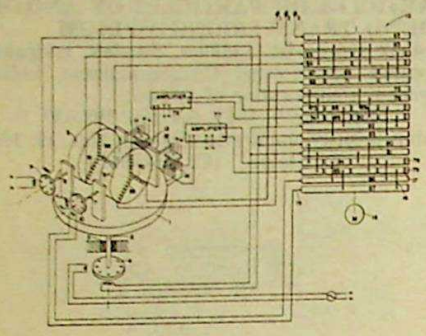


1. A non-tumbling vertical gyroscope unit having superimposed pitch and roll gyroscopes and common inside level platform, intermediate pitch and outside roll gimbals common to both gyroscopes, said superimposed gyroscopes having substantially common vertical spin axes and perpendicular respective tilting axes and restoring torquer arrangements actuated by deviation of the platform axes from the horizontal to restore said platform axes to the horizontal, said gyroscopes being positioned directly together in superimposed position with their spin axes vertically aligned and with the bottom of the pitch gyroscope being directly above the top of the roll gyroscope and said common platform consisting of a shell encircling and enclosing the lower part of the pitch gyroscope and the upper part of the roll gyroscope and accelerometers positioned upon said platform and gimbals mounted for sensitivity parallel to the axes of the vertically stabilized coordinate system to react against the gyroscopes about their respective tilting axes in such a direction as to precess and erect the platform back into the horizontal plane.

2,999,391
SELF-COMPENSATING GYRO APPARATUS

Darwin L. Freebairn, Glendale, and John M. Slater, Inglewood, Calif., assignors to North American Aviation, Inc.

Filed Dec. 11, 1950, Ser. No. 200,234
40 Claims. (Cl. 74—5.37)

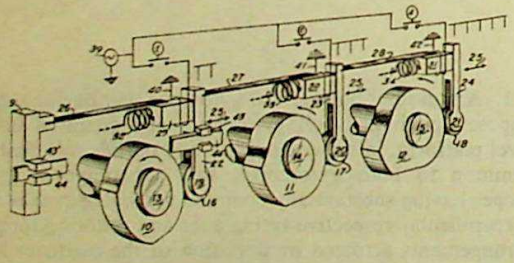


1. In a gyro stabilized device a pair of gyroscopes having disturbing torque characteristices independent of spin direction oriented with a common input axis and output axes normal thereto, pickoff means for detecting precession of said gyros about their output axes relative to said stabilized device, torquer means for applying torques to the output axis of each gyroscope, torquer means for applying a torque to said input axis of said gyro stabilized device in response to signals from said pickoff means, and sequence switch means for periodically reversing the direction of rotation of each gyroscope alternately, controlling said platform torquer means in response to each of said pickoff means associated with each gyroscope, and reversing the sense of the torque applied by said platform torquer in coordination with the direction of rotation of said gyroscopes whereby substantially all output-axis disturbing torque influencing said gyroscopes is compensated.

2,999,392
POSITIONING DEVICE

Russell V. Rogers, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 29, 1957, Ser. No. 693,129
6 Claims. (Cl. 74—55)

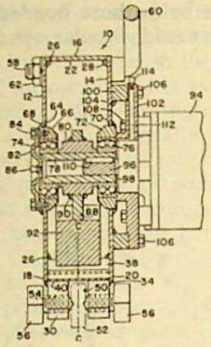


1. A device for selectively displacing a member comprising first coupling means engaging said member when said first coupling means is operated, first displacing means displacing said first coupling means during a first time interval, second coupling means engaging said first coupling means when said second coupling means is operated, second displacing means for displacing said first and second coupling means when said second coupling means is operated during a portion of said first time interval and means for operating said first and second coupling means at selected times whereby said member is displaced with said coupling means according to said selective times.

2,999,393
VIBRATOR

Edwin F. Peterson, % Martin Eng. Co., Neponset, Ill.

Filed Feb. 13, 1959, Ser. No. 793,088
15 Claims. (Cl. 74—87)



1. A vibrator of the class described, comprising: a pair of spaced apart parallel similar plates having coterminous lower edges and at least one plate having an aperture therethrough substantially centrally therof on an axis normal to the plates, each plate additionally having opposite generally upright end edges and a top edge, said end edges meeting and rising respectively from said lower edge at a pair of lower corners and meeting said top edge at a pair of upper corners; a pair of mounting blocks spaced apart lengthwise of said lower edges and rigidly secured to said plates respectively at said lower corners and respectively including means for mounting the vibrator on an object to be vibrated; wall means spanning and rigidly joined to the plates and being in the form of an inverted U having opposite legs secured respectively to the blocks and a bight extending from one leg to the other generally in the form of a partial annulus about the aforesaid axis, said wall means being so dimensioned that the upper corners project beyond said bight and said wall means defining with the plates and blocks a hollow casing having a bottom opening afforded by the space between the blocks; a pair of bearing means respectively on the plates and coaxial with said aperture; a shaft coaxially journaled in the bearing means and extending across the interior of said casing; weight means within the casing eccentrically of the shaft and connected to the shaft for rotation about the shaft axis in an orbit partially closed peripherally by the wall means, said shaft having an end portion exposed at said aperture for coaxial connection to a driving source; handle means connected to the upper corners where said corners project beyond said bight; and closure means spanning the lower edges of the plates and extending between and removably secured to the blocks for normally closing said bottom opening and removable to afford access to the interior of the casing.

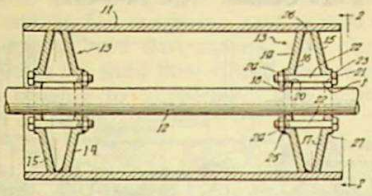
2,999,394
CONVEYOR PULLEY OR THE LIKE

David Firth, South Bend, Ind., assignor to Dodge Manufacturing Corporation, Mishawaka, Ind., a corporation of Indiana

Filed Dec. 31, 1958, Ser. No. 784,264
8 Claims. (Cl. 74—230.8)

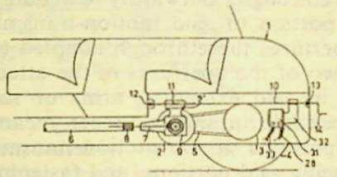
1. A hubless pulley of the class described comprising, a cylindrical drum-like rim member, a pair of separate concentric circular discs received within said rim member and centrally perforated to closely pass a shaft therethrough, said discs being respectively concavely dished on their opposing faces, a first of said discs being permanently peripherally integrated with said rim member thereby forming a unit with it and a second of said discs being inserted into said rim member and bearing at its periphery on said unit, said discs having holes there-

through spaced around said central perforations and located close to it, and take-up means each including a threaded bolt member extending between the discs and passing through the holes and each arranged for screwing action with another threaded member to draw the



discs toward one another whereby the discs may be clamped onto the shaft by flexing thereof, the periphery of the second disc being simultaneously tightened against said unit by said takeup means, one of the threaded members of the take-up means being integrated with the first disc.

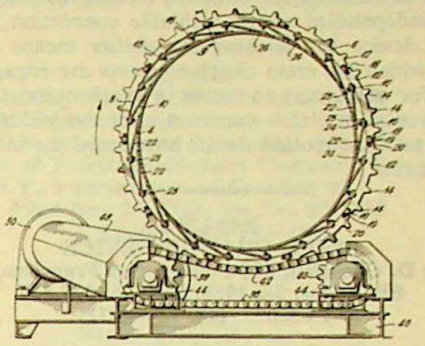
2,999,395
BELT TRANSMISSION WITH AT LEAST ONE AXIALLY EXPANDABLE BELT PULLEY
Hubertus J. van Doorne, A54a Stationsstraat, Deurne, Netherlands
Filed Jan. 18, 1960, Ser. No. 9,147
Claims priority, application Netherlands Jan. 21, 1959
3 Claims. (Cl. 74—242.14)



1. A belt transmission comprising two pulleys, at least one of which is an expandable pulley, a belt connecting said pulleys, and a device for adjusting the distance between the axes of said pulleys, a normally open electrical make-and-break contact, a part of said contact being carried by a pulley half of said expandable pulley and being controlled by the relative axial displacement of the pulley halves of said expandable pulley so that by approaching said pulley halves one with respect to the other to a predetermined distance, said contact is closed and by separating said pulley halves beyond said predetermined distance, said contact is opened.

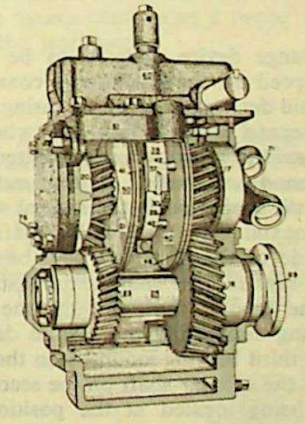
2,999,396
DRIVE FOR ROTARY DRUMS
Leonard M. Kaczmarski, Chicago, Ill., assignor to Link-Belt Company, a corporation of Illinois
Filed Apr. 17, 1959, Ser. No. 807,075
1 Claim. (Cl. 74—244)

A drive for a rotary dum, comprising a sprocket surrounding said drum, said sprocket having an inside diameter substantially greater than the outside diameter of said drum and comprising a plurality of arcuate segments arranged end-to-end, each of said segments having a plurality of teeth formed on its outer surface and an arcuate inner surface, means for detachably connecting the adjacent ends of said segments to form the complete sprocket, a plurality of mounting plates fixed to the inner surface of each segment, each of said mounting plates extending laterally outwardly for some distance on both sides of its segment in directions normal to the plane of the sprocket and having flat inner faces arranged parallel to the inner surface of its segment, an elongated leaf element detachably connected at one of its ends to the said laterally outwardly extending portions of each mounting plate in engagement with the full length of the flat inner face thereof, all of said leaf elements being bent to extend tangentially inwardly of, and in the intended direction of rotation of the sprocket, the side edges of each leaf element diverging from each other to form the leading end of each element of substantially greater width



than its trailing end, the leading ends of all of the leaf elements being flatly welded to the outer surface of the drum so that the greater width of said welded ends will provide substantial lateral stability for the sprocket, a drive chain engaging said sprocket, and means for driving said chain to impart rotary movement to said drum through said sprocket and said spacer elements.

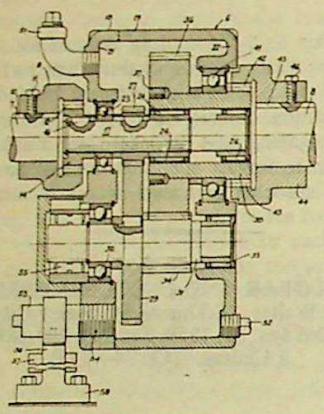
2,999,397
DRIVE GEAR AND CLUTCH ASSEMBLY
Gustave Walter, 15 Thorne St., Jersey City, N.J.
Filed Jan. 30, 1959, Ser. No. 790,189
5 Claims. (Cl. 74—377)



1. In combination, a drive shaft, a drive gear, and a clutch assembly for coupling said gear to said shaft comprising shifter means on, driven by and immovable rotatably independently of said shaft, complementary drive and driven main clutch elements connected respectively to said shifter means and gear, complementary drive and driven pilot clutch members also connected respectively to said shifter means and gear in such relation as to precede engagement-wise the engagement of the main clutch elements, a yieldable connection between the shifter means and drive pilot clutch member automatically disconnectable on continued applied thrust to the shifter means after engagement of the pilot clutch members to permit the continued movement of the drive main clutch element into engagement with its comple-

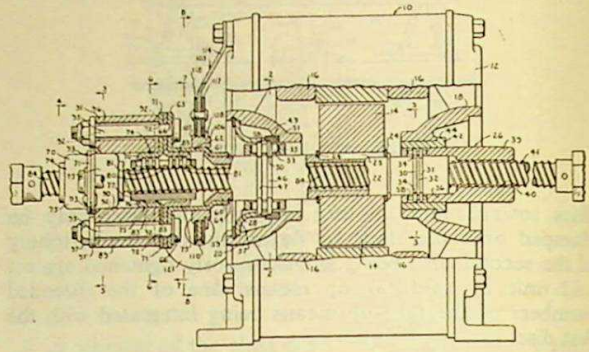
mentary driven main clutch element, a lost motion device associated with said yieldable connection for permitting of relative freedom of movement between said drive pilot clutch member and the shifter means after the yieldable connection has been disconnected so that, while the drive main clutch element continues movement in the same direction under said continued applied thrust to the shifter means, the drive pilot clutch member may back off in the opposite direction freeing the pilot clutch, means independent of the yieldable connection and lost motion device for latching the shifter means in position in which the main clutch elements are engaged, and means for continuing to rotate in synchronism the drive and driven pilot clutch members after the yieldable connection and lost motion device have freed the same from engagement.

2,999,398
SPEED CHANGE DEVICE
Joseph D. Christian, 480 Potrero, San Francisco, Calif.
Filed Mar. 26, 1959, Ser. No. 802,187
1 Claim. (Cl. 74—421)



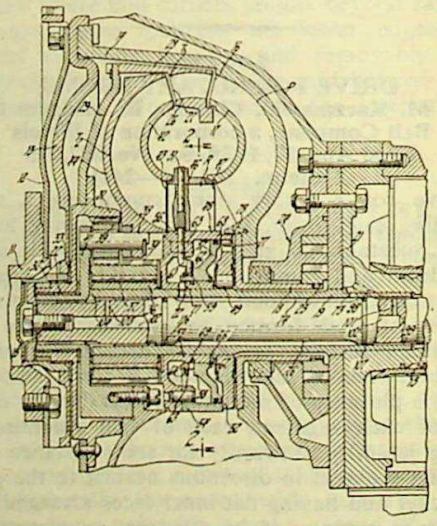
A speed change device adapted to be mounted between a high speed driving shaft and a coaxial low speed driven shaft, said device comprising a casing having opposite first and second walls, a first gear wheel, a tubular shaft carrying said first gearwheel and extending on each side of the second wall, a first bearing mounted on the tubular shaft and supported in the second wall, a second driven shaft coaxial with the tubular shaft and extending on each side of the first wall with one end thereof extending into said tubular shaft and substantially coextensive with the tubular shaft through the second wall, a second bearing supporting the second driven shaft in the first wall, a third bearing mounted on the second shaft and supporting the tubular shaft on the second shaft, said third bearing being located at the position where the tubular shaft carries the first gearwheel so that the third bearing is located within the first gearwheel, a fourth bearing located within the tubular shaft and carrying the end of the second driven shaft, said fourth bearing being located within the end of the tubular shaft where it protrudes outside the casing, a second gearwheel on the second driven shaft between the second and third bearings, a counter-shaft supported in the first and second walls, a third gearwheel mounted on the counter-shaft and enmeshed with the gearwheel on the tubular shaft, a first and a second flexible coupling respectively mounted between the driving shaft and the second driven shaft and the tubular shaft and the low speed driven shaft to rotate the low speed driven shaft from the high speed driving shaft and support the speed change device in position between the high speed driving shaft and the low speed driven shaft.

2,999,399
MOTION-CONVERTING DEVICE
Ralph H. Wise, Gary, Ind., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana
Filed May 2, 1957, Ser. No. 656,587
10 Claims. (Cl. 74—441)



2. A motion-converting mechanism comprising motor means, motion-transmitting means rotatably driven by said motor means, nonrotatable screw means passing through said motion-transmitting means and operatively engaged thereby and means for axially adjusting portions of said motion-transmitting means relative to each other comprising attaching means adapted to rotate with said motion-transmitting means and having a plurality of apertures therethrough, outwardly extending arms carried by each portion of said motion-transmitting means and having apertures therethrough adapted to be aligned with at least two of the apertures in the attaching means, the apertures in said extending arms or said attaching means being arcuate in shape, spacer means positioned between said portions of the motion-transmitting means for axially spacing said portions, and fastening means for securing said spacer means and one of said portions of the motion-transmitting means to the attaching means whereby the slack may be removed from between the motion-transmitting means and the screw means.

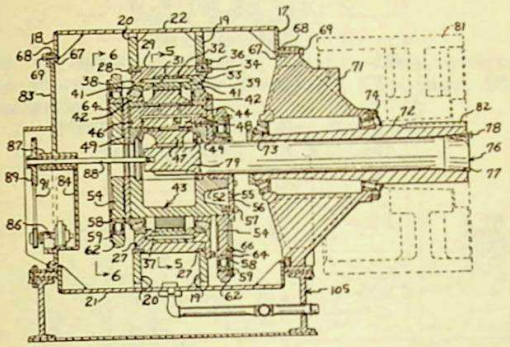
2,999,400
HYDRODYNAMIC TORQUE CONVERTERS AND CONTROLS THEREFOR
Oliver K. Kelley, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 13, 1954, Ser. No. 403,813
16 Claims. (Cl. 74—645)



1. A torque converter comprising an impeller, a turbine member, and a rotatable reaction member having

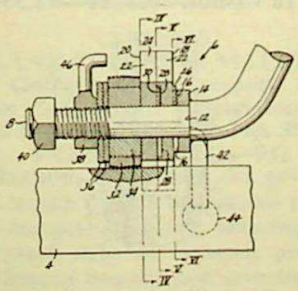
pivotally mounted blading adjustable to a low exit angle and a high exit angle position with respect to the rotative axis of the torque converter, a first means tending to urge said blading to the high angle position, a second means biased to oppose said first means with force sufficient to move said blading to the low angle position, and a third means for rendering said second means ineffective to oppose said first means, said blading being contoured so that the fluid flow within said converter may act on said blading to supplement the action of said first means.

2,999,401
DRIVE FOR RECIPROCATING POWER PUMPS AND THE LIKE
Eugene J. Bedard and Donald F. Lippincott, Detroit, and Claude H. Nickell, Dearborn, Mich., assignors to The Wheland Company, a corporation of Tennessee
Filed Nov. 28, 1958, Ser. No. 776,977
1 Claim. (Cl. 74—801)



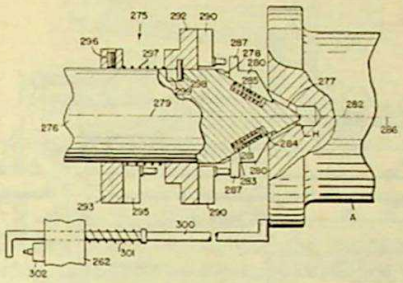
In a planetary gear, a housing, an internally toothed ring gear nonrotatably mounted in the housing, at least three planet gears in mesh with the ring gear, a carrier for said planet gears having bearing pins thereon on which the planet gears are rotatably mounted, tapered roller thrust bearings embodying outer races fixedly mounted in the housing located on either side of the planet gears and supporting the carrier for rotation and holding it against thrust, a hollow carrier shaft, other thrust bearings mounted in the housing and supporting the carrier shaft for rotation and holding it against thrust, a power shaft having a relatively short section adjacent its outer end tapered inwardly of the power shaft and fitting in a complementarily tapered section on the carrier shaft, the remainder of the power shaft being unsupported throughout its length, whereby its inner end extends in cantilever fashion into the center of the gear system defined by the ring and planet gears, and a sun gear on the inner end of the power shaft in mesh with said planet gears.

2,999,402
TOOL FOR SHARPENING ICE SKATES
Roy R. Bratton, Rte. 4, Lee's Summit, Mo.
Filed Apr. 29, 1959, Ser. No. 809,688
5 Claims. (Cl. 76—83)



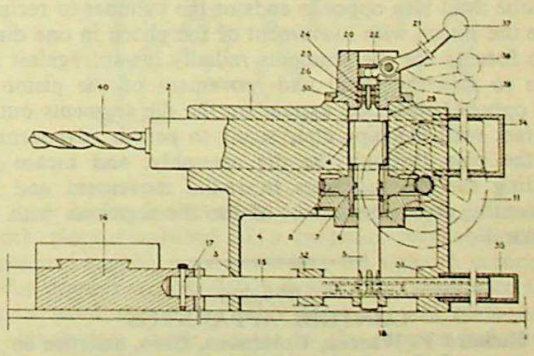
3. A tool for sharpening ice skates comprising a shouldered shaft, a handle secured to said shaft, a cutter wheel carried coaxially for rotation on said shaft and having cutting teeth formed on the periphery thereof, a guide disc carried coaxially for rotation on said shaft adjacent said cutter wheel, said disc being of larger diameter than said wheel and having radial notches of different widths formed at spaced apart intervals in the edge thereof, and a nut threaded on said shaft and operable to force said cutter wheel and guide disc against the shoulder of said shaft to secure them against rotation on said shaft.

2,999,403
AXLE RECENTERING MACHINE
George B. Anderson and Francis E. Compton, Rochester, N.Y., assignors to Consolidated Machine Tool, division of Farrel-Birmingham Company, Inc., Rochester, N.Y., a corporation of Connecticut
Filed June 26, 1959, Ser. No. 823,235
7 Claims. (Cl. 77—18)



1. A machine for recentering axles and the like comprising a work support for holding a workpiece, a tool head, a tool carrier reciprocable in said tool head toward and from the workpiece, a tool spindle rotatably journaled in said carrier, a tool mounted thereon to rotate therewith, means for reciprocating said carrier to feed the tool into and to retract it from the workpiece, means for rotating said spindle, adjustable means for stopping the feed movement of said carrier, and means for adjusting said adjustable stop means comprising a probe adapted to be engaged with the workpiece.

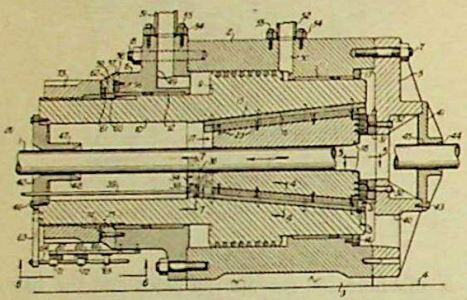
2,999,404
DRILLING AND THE LIKE ARRANGEMENT FITTED ON A LATHE TAILSTOCK
Henri René Bruet, Paris, France, assignor to Etablissements A. Cazeneuve, La Plaine Saint-Denis, France, a company of France
Filed July 14, 1959, Ser. No. 827,060
Claims priority, application France July 22, 1958
10 Claims. (Cl. 77—34.6)



1. In a lathe including a carriage and a tailstock, the provision of a machining system comprising a sleeve slidably carried inside said tailstock and extending longitudinally of the latter, and adapted to carry a tool, a first rack rigid with the outer surface of the sleeve, longitudinally of the latter, a relay shaft slidably and

revolubly carried in the tailstock, its axis lying in a transverse plane of the latter, locking means for immobilizing said tailstock during cutting operation, a first pinion and a second pinion keyed to said relay shaft and of which the first pinion meshes with the rack on the sleeve and the second pinion is keyed to one end of the relay shaft, a draw bar operatively connected with the latter carriage, and a second rack carried by said draw bar, parallel with the longitudinal axis of the tailstock and adapted to mesh with the second pinion.

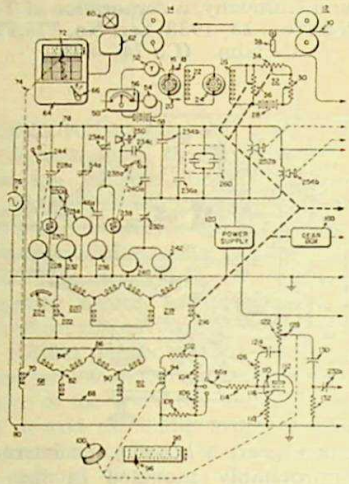
2,999,405
APPARATUS FOR RADIALLY COMPRESSING ARTICLES
John C. Ewart, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Dec. 24, 1957, Ser. No. 704,926
7 Claims. (Cl. 78—14)



1. An apparatus for cold sizing a tubular article, comprising an annular die assembly having an axial opening to receive the article to be sized and being formed of a plurality of circularly disposed radially movable die segments, each of said die segments being tapered in an axial direction and having a generally flat outer surface, a hollow mandrel disposed around the die assembly and having a generally polygonal inner surface tapered to complement the tapered outer surfaces of the die segments, key means for preventing relative rotation between the mandrel and the die segments, trough means formed in the inner surface of the mandrel and disposed in substantial registry with the joints between adjacent die segments for conducting a flushing medium through the apparatus, means for introducing a flushing medium into said trough means to flush foreign material therefrom, a hollow piston disposed around the mandrel and connected directly thereto, a cylinder slidably containing the piston, means for alternately introducing hydraulic fluid into opposite ends of the cylinder to reciprocate the piston with movement of the piston in one direction forcing the die segments radially inward against the pipe to size the same and movement of the piston in the opposite direction expanding the die segments out of contact with the pipe after sizing to permit advancement of the pipe through the die assembly, and means for guiding the die segments in radial movement and for preventing axial movement of the die segments with the mandrel.

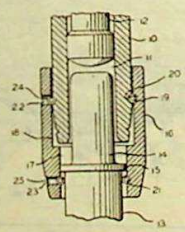
2,999,406
CONTROL APPARATUS
Richard F. Warren, Columbus, Ohio, assignor to Industrial Nucleonics Corporation
Filed May 6, 1957, Ser. No. 657,434
4 Claims. (Cl. 80—35)

1. In the combination of a rolling mill and like apparatus wherein an elongated workpiece of ductile material is passed in succession through first and second machine elements in tractive engagement with said workpiece for reducing a cross-sectional dimension of the same, said apparatus including means for driving said second machine element and adjustable means for regulating the speed of said driving means, with means for measuring said dimension and means controlled by said measuring means for actuating said speed regulating means, the improvement comprising: a radioactive source of penetrative radiation and a radiation detector positioned near the material exit side of said second machine element for producing an indication of the measured value of said cross-sectional dimension of said workpiece issuing from said second machine element, target setting means permitting selection and indication of a desired value of said dimension, means responsive to any deviation of said measured value indication from said desired value indication for producing a first electrical signal functional



of said deviation, circuit means having a variable element coupled to said target setting means for converting the absolute value of the deviation-functional characteristic of said first electrical signal into a value proportional to the percentage deviation of said measured value indication from said desired value indication to provide a compensated error signal, an electronic amplifier having an input and an output, means for connecting said error signal to said amplifier input, motor means controlled by said amplifier output for actuating said adjustable means for regulating the speed of said driving means, means driven by said motor means for producing a second electrical signal proportional to the speed thereof, and adjustable means for connecting said second electrical signal to said amplifier input in opposition to said error signal.

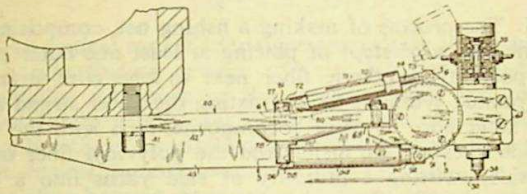
2,999,407
AXIAL IMPACT TOOL AND WORK-RETAINER COMBINATION
Ralph D. De Frangesco, Chicago, Ill., assignor to Arrow Tools, Inc., Chicago, Ill., a corporation of Illinois
Filed June 3, 1960, Ser. No. 33,722
16 Claims. (Cl. 81—52.35)



1. In combination with a percussive tool comprising a casing provided with a longitudinally extending cylinder

having a hammer reciprocable therein for transmitting repetitive impact forces to a work member, a retainer element carried by said casing adjacent an end thereof and being provided with a longitudinally extending passage therethrough coaxially oriented with respect to said cylinder and extending forwardly thereof, a longitudinally extending work member supported by said retainer element and having a portion thereof disposed within said passage for limited longitudinal movements with respect thereto and being adapted to have repetitive impact forces transmitted thereto by said hammer, said work member being equipped with a laterally outwardly projecting annular flange positioned within said passage, and an impact-absorbing and dissipating structure carried by said retainer element and extending laterally inwardly into said passage forwardly of and in alignment with said flange for resistively arresting forward propulsion of said work member enforced thereon by impact forces transmitted thereto by said hammer.

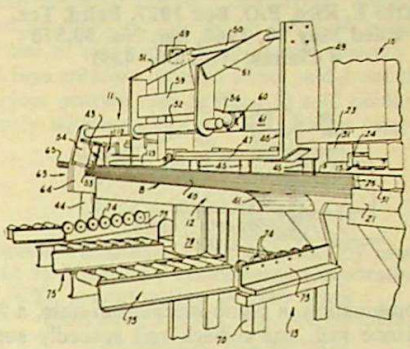
2,999,408
MACHINE TOOL
Henry W. Spreitzer, Shaker Heights, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 24, 1958, Ser. No. 730,630
12 Claims. (Cl. 82—14)



1. The combination comprising a pattern-reading unit for controlling a machine tool slide, said unit having an active pattern-reading position and an inactive position and including a pattern-responsive element and slide control means actuated by said element, a support for said unit, a post carried by said support, a first member fixed to said unit, bearing means on said post mounting said first member for rocking movement about said post and relative to said support to move said unit between said positions, said unit moving in a first direction when moving toward said active position and in a second direction when moving toward said inactive position, an abutment mounted adjacent said first member and supported stationarily with respect to said support, said abutment facing in said second direction, said first member having a portion engageable with said abutment to limit movement of the unit in said first direction, double-acting motor means effectively connected between said support and said first member for selectively rocking said first member and selectively operable to urge said portion into engagement with said abutment, and means connected to said abutment for adjusting the position of said abutment.

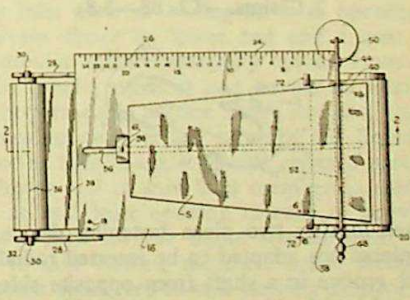
2,999,409
BLANK SEVERING MACHINE
George Elton Gollwitzer, McKeesport, Pa., assignor to Kelsey-Hayes Company, a corporation of Delaware
Filed Dec. 19, 1955, Ser. No. 553,869
5 Claims. (Cl. 83—91)

5. In combination, a machine for severing blanks of predetermined length from a continuous strip of material, said machine comprising blank severing means, means for advancing said strip of material past said severing means, a stop spaced beyond said severing means in position to be engaged by the forward edge of said strip of material for accurately determining the length of said strip advanced past said severing means, said stop being at substantially the same height as said severing means, a support for the portion of said strip between said stop and severing means, said support having an elongated straight top surface between said stop and severing means, said top surface being upwardly inclined from end to end in the direction of advance of said strip, means for initially sustaining said support at a level such that the low end of its top surface adjacent said severing means is at a level slightly below said severing means so that said top surface is in position for full surface-to-surface supporting engagement with a substantial length of the mid-section of said portion of said strip between said stop



and severing means throughout the full length of said top surface to support said portion of said strip in straight inclined condition before severing and to positively prevent longitudinal bowing of the latter when its forward edge is engaged with said stop, thereby to enable more accurately determining the length of said strip advanced past said severing means, indexing means for periodically lowering said support from the aforesaid initial level thereof to cause the stack of blanks to accumulate thereon with the top blank in the stack in inclined position to support said portion of said strip between said stop and severing means during a severing operation, and means for actuating said severing means.

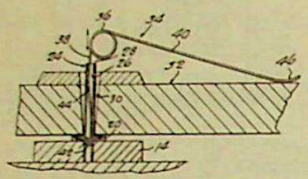
2,999,410
SEVERING DEVICE FOR FABRIC MATERIAL
Abe Brenner, 255 W. 23rd St., New York, N.Y.
Filed Dec. 13, 1957, Ser. No. 702,590
5 Claims. (Cl. 83—485)



1. A device for severing a selected length of a fabric work piece composed of a material incapable of self sustained support over a slot in a flat support, comprising a flat support to completely support the workpiece thereon, a work supporting plate thereon, said plate having a slot therein, paper carried by the support independent of the work piece prior to the severing of the work piece and having a portion overlying said slot to provide a support for the full portion of said work piece, positioned over said slot, means transversely disposed across the support to retain the work piece in place on said paper support, and cutting means overlying the slot, means connecting said cutter means with said support to guide the

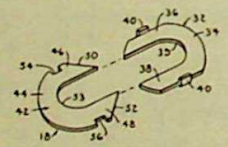
same for movement along said slot of said plate, said slot extending for at least the width of the work piece and the spaced walls thereof guidingly receiving said cutting means for movement therebetween, the space of said walls being sufficient to permit said paper to support itself thereover and said cutting means being movable progressively in and through the slot to progressively sever the work piece and underlying portion of the paper while the uncut underlying paper portion supports the work piece during the severing thereof.

2,999,411
PIANO KEY TENSIONING DEVICE
Arlo E. Rice, P.O. Box 1027, Baird, Tex.
Filed May 20, 1960, Ser. No. 30,570
6 Claims. (Cl. 84—439)



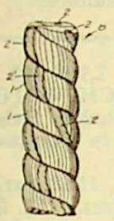
1. In combination, a piano mechanism base, a forward rail, a balance rail, and a back rail spacedly supported on said base, a piano key overlying and extending across said rails, said key having a forward end portion overlying said forward rail, an intermediate portion overlying said balance rail, and a rear end portion overlying said back rail, said key having a vertical bore extending through its intermediate portion, a vertical pin secured to the balance rail and rising through said bore, and a tensioning spring mounted on said pin and downwardly tensioned upon the key behind the pin, said spring comprising a coil, a vertical arm carried by said pin and a downwardly tensioned horizontal arm extending rearwardly from the vertical arm and having a terminal tensioned downwardly upon the upper surface of the key.

2,999,412
TWO PART RING WITH LUG AND RECESS RETAINING MEANS
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Mar. 17, 1958, Ser. No. 721,764
2 Claims. (Cl. 85—8.8)



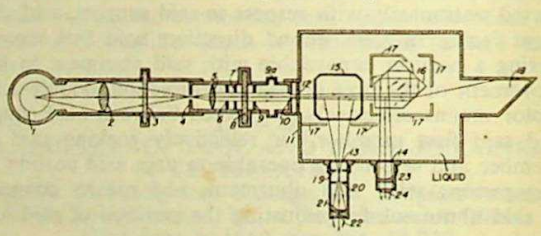
1. A self-locking two piece fastening device wherein the two pieces are adapted to be inserted radially into a peripheral groove in a shaft from opposite sides thereof and snapped into locking engagement with each other in cooperative relationship with said groove, comprising a first generally U-shaped flat piece having a notch in the outer edge of each leg of the U and the end surface of each leg being inclined inwardly from the outer edge to the inner edge of the leg to provide a cam surface at the free end of each leg of the U, and a second generally U-shaped flat piece of resilient material having an upstanding lug formed integrally on the outer edge of each leg of the U, said first and second U-shaped pieces being adapted to straddle the shaft in superposed relationship as they are moved toward each other into said groove from opposite sides of the shaft, and said lugs on said second piece being spaced apart less than the distance between the outer edges of the legs of said first piece with said lugs at first being in alignment with said notches in said first piece in the direction of application of said pieces and being temporarily forced out of alignment with said notches by said cam surfaces on said first piece as the two pieces are moved progressively toward each other to resiliently deform said second piece and effect snapping of the lugs into the notches as the lugs reach a position of alignment with said notches in the radial direction perpendicular to the direction of application.

2,999,413
PROCESS OF MAKING A FISHING NET
Kazuo Momoi, 760 Nakahiro, Ako City, Hyogo-ken, Japan
Filed Feb. 26, 1959, Ser. No. 795,856
2 Claims. (Cl. 87—12)



1. The process of making a fishing net, comprising the combination of steps of placing at least one outer strand of polyvinyl synthetic fiber next to one core strand of polyamide synthetic fiber; twisting the outer strand about the inner core to form a composite yarn with the polyamide fiber on the inside and the polyvinyl fiber on the outside; twisting a plurality of said yarns into a cord; knotting a plurality of said cords at spaced intervals with a slipless knot to make a net, whereby, by thus disposing the polyvinyl synthetic fiber strands about the polyamide synthetic fiber strands, said cords can be made into a net without heat treatment and the knots thus made do not loosen.

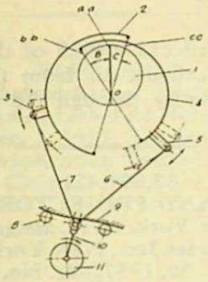
2,999,414
LIGHT BEAM WEAKENER
Robert F. Stamm, Stamford, Conn., and Peter A. Button, Eau Gallie, Fla., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed June 17, 1958, Ser. No. 742,550
3 Claims. (Cl. 88—1)



1. A light beam weakener for weakening a light beam by a factor of the order of 5×10^{-6} comprising a liquid bath, a seven-sided one-piece glass prism immersed in said liquid bath, said prism having five flat working surfaces, the second and fourth of which surfaces are parallel, a third surface at right angles to the second and fourth surfaces, said second, third, and fourth surfaces comprising glass-liquid reflecting surfaces, and a first and fifth light transmitting surface, which surfaces when extended form an angle of 45° with said third surface and which are at 90° with each other, all of said surfaces being perpendicular to a common plane, and a light source impinging incident substantially parallel light on

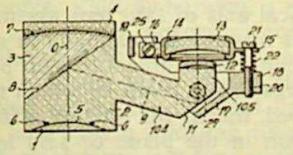
said first light transmitting surface of the prism; said liquid bath having a different index of refraction than said glass prism at the wave length being employed, thereby causing the major portion of the light to escape from the prism at each reflection and a small but calculable portion of the light beam to be internally reflected from each surface.

2,999,415
RANGEFINDER SIGHT WITH RANGEFINDER OF EXTERNAL BASIS TYPE
Tadeusz Malinowski and Walter Mandler, Midland, Ontario, Canada, assignors to Ernst Leitz Canada Limited, Midland, Ontario, Canada
Filed July 13, 1959, Ser. No. 826,545
4 Claims. (Cl. 88—2.2)



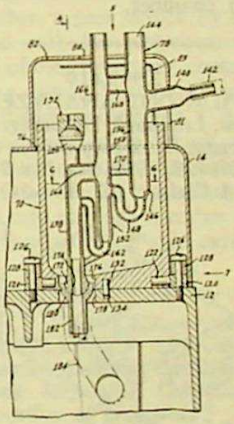
1. An optical rangefinder-sight comprising in combination a rangefinding system and sighting system, whose rangefinding system is of the external basis type to be applied for targets having a form of horizontal rod of known length, said rangefinding system comprising a telescopic optical system including a reticle having a fixed vertical line bearing divisions in terms of ranges and two tilted lines passing through a point arbitrarily selected on said vertical line and forming fixed angles with said vertical line; whereby when the said two tilted lines on the reticle embrace the two opposite ends of the image of the target rod, the image of the said target rod intersects the said vertical line of the reticle at a height which indicates the proper range division, corresponding to the real range of the target.

2,999,416
PHOTOGRAPHIC MEASURING FINDER
Friedrich Mische, Braunschweig-Gliesmarode, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed May 26, 1958, Ser. No. 737,615
Claims priority, application Germany Oct. 2, 1957
13 Claims. (Cl. 88—2.4)



1. A measuring finder for photographic cameras comprising, in combination, an Albada view finder of the solid block type including a front member facing the object, an ocular member, an intermediate block extending between and in surface to surface contact with said members, a semi-permeable concave mirror disposed at the interface between said front member and said block and facing said ocular member, and a picture defining frame disposed at the interface between said ocular member and said block in substantially the focal plane of said mirror for reflection thereby at substantially infinity, said block being formed of plural components united in surface to surface relation and defining a mirrored interface intersecting the optical axis of the view finder at an acute angle thereto and facing said ocular member; and a range finder including a relatively elongated prism extending laterally from said intermediate block and containing the optical axis of the range finder, the outer end of said prism being beveled to reflect, along the range finder axis to said prism and to said mirrored surface for reflection by the latter to said ocular member along the optical axis of the view finder, light entering through a surface portion of said prism facing the object, and an Abat wedge including a positive member, mounted on said surface portion in the path of light rays from the object, and an adjustable negative member operatively associated with said positive member; said prism being an integral extension of one of said block components, whereby the paths of light rays entering through either said front member or said surface portion and directed to said ocular member, lie entirely within solid elements without intervening air spaces.

2,999,417
COLORIMETER
Jack Isreeli, Tuckahoe, N.Y., assignor, by mesne assignments, to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York
Filed June 5, 1957, Ser. No. 663,681
14 Claims. (Cl. 88—14)

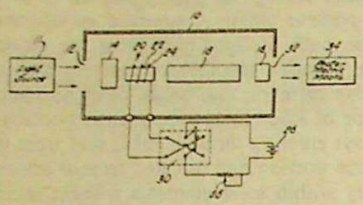


1. A flow cell for exposing a liquid stream to a light beam for viewing by a photosensitive device, comprising a tubular inlet member having an inlet opening for the liquid stream above its lower end and a vent opening, another tubular member laterally spaced from said first mentioned tubular member and having an inlet opening and a light-permeable portion above its lower end to provide a viewing member for exposing the liquid column therein to the light beam, a tubular reflexed part connecting the lower end of said inlet member to said viewing member at said inlet opening thereof to provide a reflexed flow path for the liquid stream from said inlet member to said viewing member, outlet means for the liquid stream connected to said viewing member above its lower end for providing a predetermined level of liquid in said viewing member, and vent means above said outlet means whereby the pressures on the liquids in said outlet means and said inlet member are equal.

2,999,418
POLARIMETRIC APPARATUS
Albert S. Keston, 67 Bonn Place, Weehawken, N.J.
Filed Mar. 31, 1958, Ser. No. 725,148
10 Claims. (Cl. 88—14)

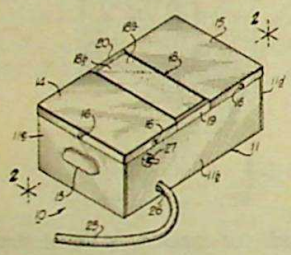
1. A polarimeter of the type that measures the rotation of the plane of polarization of a beam of polarized light produced by a substance through which the beam

passes, comprising in combination, a source of light, light polarizing means for polarizing light from said source to form two beams of plane polarized light having polarization planes that are offset in opposite directions by predetermined angles from an intermediate reference plane, said polarizing means including magnetically-actuated beam-rotating means for rotating the plane of polarization of separate portions of the light from said source to form said two offset beams, a polarization analyzer having a polarizing axis substantially perpendicu-



lar to said reference plane, a sample chamber located between said light polarizing means and said analyzer and photometric means for sensing the relative intensities of the portions of said two beams passing through said analyzer, said polarimeter having no movable beam-rotating parts in the path of said beams, whereby the intensities of the beams passing through said analyzer at the time of measurement differ as a function of, and only as a function of, the rotation of said beams by said substance in said chamber.

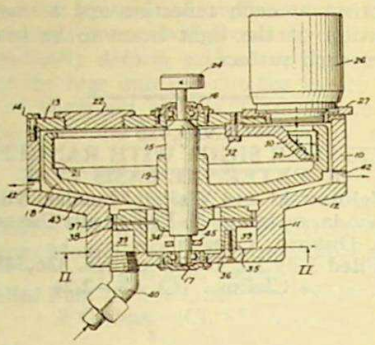
2,999,419
FILM DOT ANALYZER
Harold R. Benson, Lombard, Ill., assignor to nuArc Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 3, 1958, Ser. No. 771,329
1 Claim. (Cl. 88—14)



An analyzer for the dot structure of photographic film comprising, a rectangular light box having a pair of identical cover members which together cover less than the entire top of said box so as to leave a space between said cover members at the center of said box, flange members integral with said cover members extending into said space below the top of said cover members to define a shelf, a light transmitting viewing surface supported on said shelf, said viewing surface comprising two adjacent sections one formed of clear glass plate and the other formed of frosted glass plate, a lamp disposed in said box adjacent one end thereof and near the bottom of said box, the lamp being disposed so that a line interconnecting said lamp and said viewing surface makes an angle within the range of twenty degrees to forty-five degrees with the plane of said cover members.

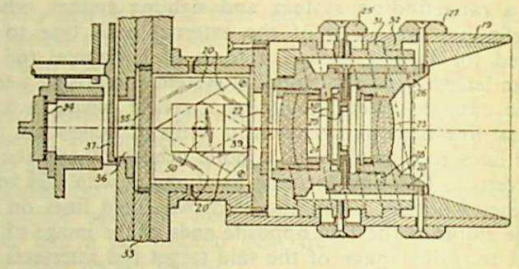
2,999,420
CONTINUOUS WRITING STREAK CAMERA
Willard E. Buck, Boulder, Colo., assignor to Beckman & Whitley, Inc., San Carlos, Calif., a corporation of California
Filed Mar. 31, 1958, Ser. No. 724,993
2 Claims. (Cl. 88—16)

1. In a high speed camera of the character described, a housing for a rotary film drum, an interconnecting and concentric housing for a turbine, a rotatable shaft extending coaxially through both housings, a film drum on the shaft, a turbine rotor on the shaft whereby operation



of the turbine will effect rotation of the drum, and passages for directing exhaust air from the turbine against the drum and outwardly through the walls of the drum housing.

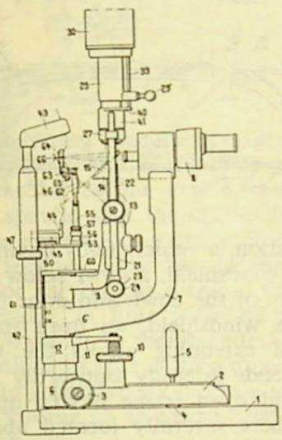
2,999,421
CAMERA AND PROJECTOR SYSTEM
Earl M. Welch, New York, N.Y., assignor to Mecca Film Laboratories Inc., New York, N.Y.
Filed Nov. 20, 1957, Ser. No. 697,704
3 Claims. (Cl. 88—16.4)



1. In the combination of a conventional lens system having a lens assembly for projecting an image to an image screen, and conventional focusing means for adjusting said lens assembly, with a beam splitting and integrating device fixed on the optical axis between said lens assembly and said screen; a prism structure forming said device for separating the beam between the plane of said image screen and said lens assembly into three separate bundles of light, each bundle terminating in a separate identical image on said image screen, said structure comprising three prism assemblies having rectangular entrance and exit faces, each set of three faces being substantially symmetrically arranged about an axis normal to the optical axis of said lens assembly and having contiguous sides meeting substantially at said optical axis to obtain maximum light area for each bundle from the total circular area of the beam by which the sets of faces are circumscribed, means for holding a film frame in the operative position in the plane of said image screen, in optical alignment to intercept said three separate images on said one frame, said prism assemblies having their axes deflected divergently toward said frame from the optical axis of said lens assembly, so as to place said images in contiguous rectangular spaces similarly arranged on said one film frame, each set of said end faces having their contiguous sides along axes normally across said optical axis and extending radially in a normal direction to said axis respectively, each set of said end faces forming a substantially symmetrical arrangement about an axial plane extended through the radially contiguous sides of two of said faces and passing through the middle of the third face at one end of said device, a basic color

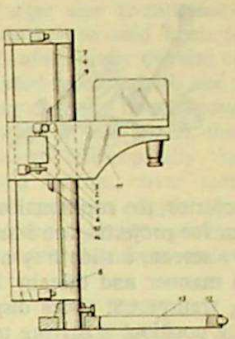
filter having a different basic color in the path of each separate bundle, said basic colors being red, blue and yellow green, said color filter being mounted adjacent one end of said device and having the three rectangular basic color areas contiguous with each other along radii in the same axial planes as those of said contiguous sides of said end faces, two of said prism assemblies being fixed in opposed relation on opposite sides of an axial plane through the optical axis of said lens assembly, and at one side of said axis, said two assemblies each having three reflective surfaces in series for the bundles being transmitted, the third assembly being fixed at the other side of said axis across the juncture of the opposed assemblies and having four reflective surfaces in series for the corresponding bundle, said third assembly providing the same light distance between said lens assembly and said image screen as the other two assemblies.

2,999,422
SLIT LAMP
Hans Papritz, Liebefeld-Berne, Switzerland, assignor to Haag-Streit A.G., Liebefeld-Berne, Switzerland
Filed Dec. 3, 1957, Ser. No. 700,312
Claims priority, application Switzerland Dec. 28, 1956
7 Claims. (Cl. 88—20)



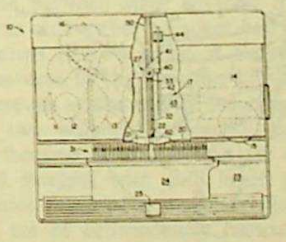
1. A split lamp for microscopic examination of the eye, of the type having an illuminating device for projecting a flat light beam into the eye and a microscope for observation of the eye, comprising a common vertical pivot axis for the said microscope and the said illuminating device, the said microscope and illuminating device having each a support mounted for independent rotation round the common vertical pivot axis, whereby the illuminating device is arranged for free motion between the microscope and the eye, the said illuminating device having a light source, a slit diaphragm, a reflector having a mirror plane and a lens system so correlated that a sharp image of the said slit diaphragm is produced in the eye, a common horizontal pivot axis on the said support of the illuminating device for the said light source, slit diaphragm and lens system allowing tilting of the said light source, slit diaphragm and lens system to different angular positions relatively to the said reflector which is fixed on the support of the illuminating device, the said horizontal pivot axis passing through the locus of the vertical mirror image of the said sharp image of the slit diaphragm with reference to the said mirror plane so that the said sharp image of the slit diaphragm appears at the same place of the eye for any angular position of the said light source, slit diaphragm and lens system relatively to the said reflector, while the angle of incidence of the said flat light beam into the eye changes in accordance with the angular position of the light source slit diaphragm and lens system relatively to the said reflector.

2,999,423
ELECTRIC DRIVES FOR PHOTOGRAPHIC ENLARGING AND REPRODUCING APPARATUS
Herbert Hauptvogel and Erich Korf, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden
Filed Sept. 6, 1957, Ser. No. 682,495
Claims priority, application Germany Sept. 28, 1956
3 Claims. (Cl. 88—24)



1. An enlarging apparatus comprising a stationary base plate, a guiding column supported by and substantially perpendicular to said base plate, a rack attached to and extending along the major portion of said guiding column, a movable carriage member on said guiding column along which it can be reciprocated, an optical projection unit on said carriage member, electric drive means secured to said carriage member, a gear driven by said drive means and engaging said rack for reciprocating said carriage member, a source of electric power, control means for energizing said drive means from said source of power, and limit switch means comprising a cut-out switch attached adjacent each end of said rack and an abutment at either side of said carriage member, said abutments being adapted to operate said cut-out switches in the extreme positions of said carriage member so as to de-energize said drive means to bring said carriage member to a stop.

2,999,424
SLIDE CHANGER APPARATUS
Robert F. McCammon, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Nov. 1, 1960, Ser. No. 66,619
5 Claims. (Cl. 88—28)

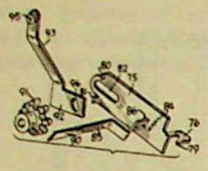


5. In a photographic projector, slide changer, a slide tray holding a plurality of individual slides in a side by side relationship, with each of the slides having a magnetic edge adapted to move past a slide receiving window in a wall of the projector as said slide tray moves whereby the slides may be individually moved to a projection position by said slide changer, a magnet, and means movably mounting said magnet on said slide changer to thereby position said magnet at said window with a first portion of said magnet in engagement with one of the slides, said magnet being movable to allow movement of said magnet relative to said slide changer and in the direction of movement of said slide tray to allow erlatively free movement of the slide tray as the next succeeding slide is moved into position to engage a second portion of said magnet.

2,999,425
SLIDE PROJECTION APPARATUS

Henry J. Emmel, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York

Filed Oct. 12, 1959, Ser. No. 845,867
7 Claims. (Cl. 88—28)

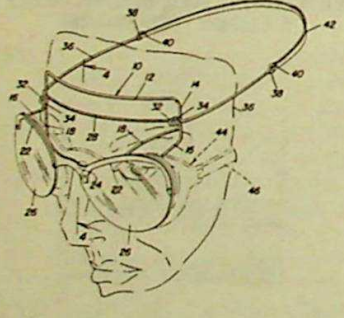


1. In a slide projector, the combination including a projection lens system for projecting an image from a transparent slide onto a screen, a slide tray normally movable in a step by step manner and thereby being adapted to successively bring transparent slides disposed within the tray into a loading position, a driving motor, means actuated by said motor and effective in timed sequence to move the slide disposed in said loading position into a projection position relative to said lens system and after a predetermined time interval to return such slide to said loading position in said tray; means for effecting said stepped movement of said slide tray and including cooperable dog and toothed means, means comprising a blocking member actuated by said motor upon the return of such slide to loading position for causing a first portion of said dog to engage said toothed means for normally effecting movement of said slide tray into its next forward position, and selectively controlled means actuated by the energization of said motor for actuating said blocking member in a different manner upon the return of said slide to loading position for thereby causing a second portion of said dog to engage said toothed means for effecting movement of said slide tray into its next rearward position.

2,999,426
LENS SUPPORTING AND POSITIONING MEANS

Joseph Hanke, 3349 N. Avers Ave., Chicago, Ill.

Filed July 22, 1958, Ser. No. 750,193
3 Claims. (Cl. 88—51)

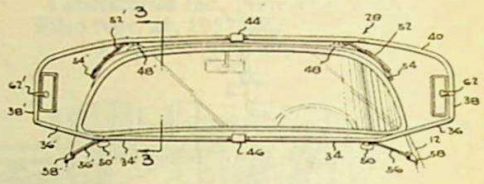


1. For use in supporting and positioning a pair of cooperating lenses with said lenses properly located for use before the eyes of a user of eyeglasses or sunglasses, as the case may be; a readily applicable and removable holder for said lenses comprising an elongated inverted generally U-shaped adapter frame embodying a longitudinally bowed bight portion of a curvature and length that is adapted to bear conformably and comfortably against the forehead of the user and provided at its ends with lateral depending limb portions the lower ends of which terminate in a plane above the plane of the eyebrows of the user, the the lower ends of said limb portions having integral forwardly extending lens supporting and suspending members horizontally displaced and which when individually connected with their respective eye lenses properly position and hold the lenses before the user's eyes in correctly usable position, a brace of a length approximately the same as the length of said bight portion and disposed in spaced parallelism below the bight portion and located between the median portions of the respective limb portions and having its ends connected with said limb portions, said brace conformable in curvature with the bight portion, the brace, bight portion and limb portions cooperatively providing prescribed location and support for the lenses and obviating the need for a nose bridge, and means for applying and retaining the frame in restful but reliable contact with the forehead, said means comprising an elastic head-embracing strap and links connected to the forward ends of the strap and having their respective forward ends individually connected with said limb portions at points adjacent to which the ends of the brace are rigidly connected with said limb portions.

2,999,427
REAR VIEW MIRROR SUPPORTING FRAME FOR AUTOMOBILES

Wilbur Fred Newcomb, 2129 Palomar Drive, Ventura, Calif.

Filed Apr. 3, 1959, Ser. No. 804,025
4 Claims. (Cl. 88—86)

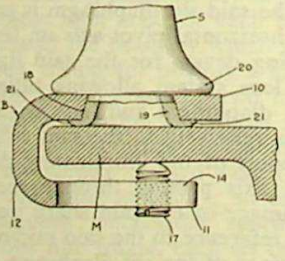


1. In combination, a vehicle body having a windshield, a top above the windshield, a cowl below the windshield, a hood forwardly of the cowl, and door frames at opposite sides of the windshield, an open frame positioned in front of and extending across the windshield and reaching at its ends laterally outwardly beyond related door frames, said open frame having upper and lower horizontal members severally located above and below the windshield, upper means securing the upper member to the body top, lower means securing the lower member to the cowl, said open frame having end portions, and rear-view mirrors severally mounted on said end portions.

2,999,428
MOUNTING FOR REAR VISION REFLECTOR

Frank N. Mariani, 165 Seaman St., Washington Heights, New York, N.Y.

Filed May 31, 1955, Ser. No. 511,914
2 Claims. (Cl. 88—98)



1. In a rear vision reflector adapted to be removably mounted on a marginal part of a vehicle and including a stem for supporting a mirror casing, the combination of a U-shaped bearing having spaced, substantially parallel upper and lower arms defining a gap for removably receiving said marginal part, said upper arm having an opening therein and said stem having a nipple, said nipple

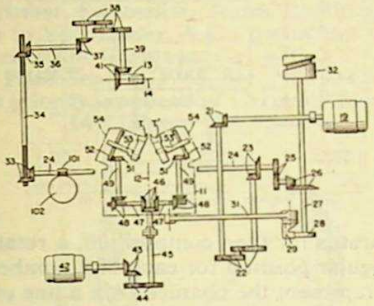
having a downwardly diverging flaring conical portion with an outwardly projecting rim, the nipple extending through said opening with the rim of the nipple contacting the inner surface of said upper arm, whereby the stem is mounted for rotation relative to said bearing, said lower arm having means for cooperating with said marginal part for urging the latter toward said upper arm and for urging the rim of said nipple against said upper arm to preclude accidental rotation of said stem relative to said bearing.

2,999,429

DRIVE OF GEAR GENERATING MACHINE

Leonard O. Carlsen, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed Dec. 19, 1958, Ser. No. 781,591
8 Claims. (Cl. 90—6)



1. A gear generating machine comprising a rotatable cradle, a cutting tool and a rotatable work spindle of which one is carried by the cradle, a generating train connecting the spindle and the cradle for simultaneous rotation for gear generation, a first motor for driving the cutting tool, a second motor for driving the generating train, a device for varying the speed of the second motor, and means operable in time with the generating train for actuating said device to thereby effect variation of the rate of said rotations as gear cutting proceeds, said means being arranged to progressively increase said rate from an initial phase of cutting to an intermediate point of tooth profile generation.

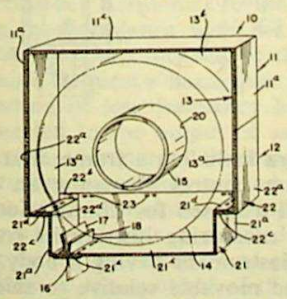
2,999,430

CONTAINER AND METHOD OF MAKING THE SAME

Thomas Riley, Fairview Park, Donald Zaas, South Euclid, Jacob Gaser, Valley City, and John Strmac, Lakewood, Ohio, assignors to Apex Paper Box Company, Cleveland, Ohio, a corporation of Ohio

Original application Jan. 29, 1959, Ser. No. 789,865. Divided and this application Mar. 14, 1960, Ser. No. 18,214

1 Claim. (Cl. 93—36)



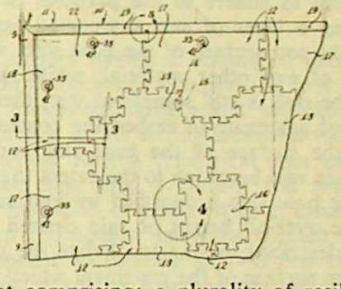
A method of forming a container adapted to house a roll of photographic film comprising the steps of forming an upper cover member from a first blank by folding the sides and ends thereof together and fastening the same, and forming a substantially rectangular mating photographic spool support member by folding a substantially rectangular member into a spool support having an open top and bottom, forming circular and registering openings in the sides of said spool support member and fastening therein a spool member adapted to mate therewith and rest on the openings, forming a rectangular-shaped open top bottom cover member from a blank by folding the ends thereof upwardly and fastening the same together and forming a larger size rectangular-shaped open top bottom cover member to said open top bottom cover member being of substantially the size of the upper cover member and adapted to mate with and fit over the spool support, said larger open top bottom cover member having a rectangular cutout in the center thereof of sufficient dimension to receive telescopically the first mentioned rectangular shaped bottom cover member, telescoping said bottom cover members together and fastening them so as to form a stepped bottom cover and securing said bottom and top cover members and spool support together.

2,999,431

RESILIENT MAT CONSTRUCTION

Robert L. Mitchell, 2130 San Fernando Road, Los Angeles 65, Calif.

Filed Oct. 17, 1957, Ser. No. 690,870
8 Claims. (Cl. 94—13)



1. A mat comprising: a plurality of resilient pads assembled to form a layer having a relatively smooth and even upper surface, said pads having protruding arms thereon, having spaced alternating tongues and slots of like shape formed along the periphery of said arms with said tongues having lateral projections, said pads being connected together along adjacent edges to form rows with a tongue of one interlocking with an adjacently positioned slot on an adjacent pad whereby is formed a line of junction between adjacent pads, said line of junction thereby being spaced apart from re-occurring interlocked lines of junction between other adjacent interlocked pads, a projecting arm on another adjacent pad connecting with the adjacent arms of two adjacent connected pads and extending transverse to the junction line thereof to form a connecting means at the end of the line of junction for securing said two adjacent connected pads together, a first set of orthogonally intersecting rib shock-absorbing means formed integral with said layer and disposed to absorb the initial force of a shock applied to said layer; and a second set of orthogonally intersecting rib shock absorbing means formed integral with said layer and disposed alternately between said first set and being of a lesser height than said first set to supplement said first means by absorbing the force of any shocks which stress said first means to near its limit of absorption, whereby said first and second sets of shock-absorbing means are substantially uniformly disposed in said mat.

2,999,432

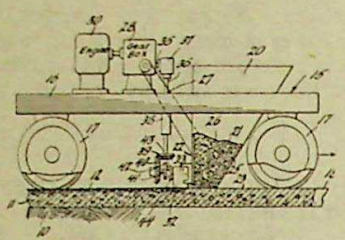
ROAD SURFACES

Carl F. Ytterberg, 241 Hollywood Ave., Crestwood, Tuckahoe, N.Y.

Filed Sept. 25, 1956, Ser. No. 611,941
2 Claims. (Cl. 94—24)

1. The method of constructing a concrete pavement for roads and streets subject to heavy vehicular traffic as

opposed to interior flooring constructions, which method consists of the steps of pouring and spreading without the application of vibration a concrete base slab of substantially the standard gravel, sand and cement mix, containing the usual proportion of voids, but being of a relatively low water content, up to a level of substantially the final desired grade; grading a quantity of hard road-metal aggregate selected from the group consisting of gravel and broken stone or hard rock, to size ranging from about three quarters of an inch to about three eighths of an inch in diameter; mixing said aggregate with dry Portland cement after having slightly wetted the aggregate with water only sufficiently to cause a coating of



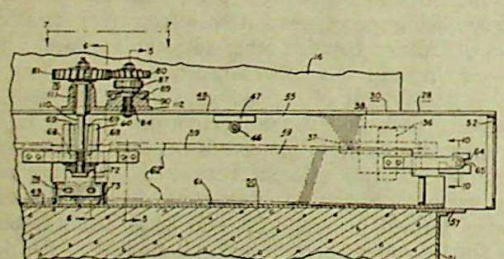
the dry cement to adhere to the particles of aggregate; then spreading a layer of said dry-coated aggregate directly upon the top surface of the base slab, without the interposition of any other material, while the concrete comprising the slab is still somewhat wet; then vibrating this overlay of aggregate to embed the coated aggregate particles in the surface of the base slab replacing the natural voids in said base slab to the extent that the upper portion of the base slab is densified without substantially increasing the over-all height of said desired grade; the process thus described serving to obviate the presence of fines in the top surface of the pavement which fines could be dislodged by a finishing treatment such as brooming or the like.

2,999,433

ROAD FINISHING MACHINE

Alphonse J. Baltes, 181 Benedict Ave., Norwalk, Ohio

Filed Mar. 5, 1957, Ser. No. 644,134
8 Claims. (Cl. 94—45)



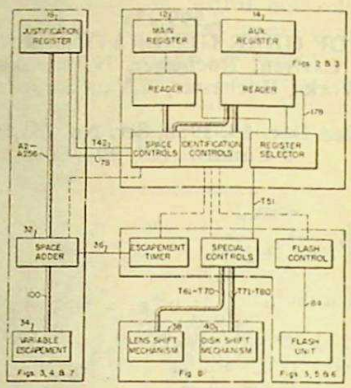
8. A road finishing machine including a carriage structure adapted to travel on spaced road forms between which road material is adapted to be contained, a screed operatively connected to said carriage structure and adapted to extend in a transverse direction between said road forms, first drive means for reciprocally moving said screed in said transverse direction, said screed including crown member means for engaging road material, raising and lowering means connected to said crown member means at an intermediate portion thereof, and second drive means mounted on said screed for actuating said raising and lowering means, and means interengaging said second drive means and said carriage structure to power said second drive means in response to the reciprocal movement of said screed relative to said carriage.

2,999,434

APPARATUS FOR TYPE COMPOSITION

Rene A. Higonnet, Cambridge, Mass. (% Graphic Arts Research Foundation, Inc., 58 Charles St., Cambridge 41 Mass.), Louis M. Moyroud, West Medford, Mass. (% Graphic Arts Research Foundation, Inc., 58 Charles St., Cambridge 41, Mass.), and Ellis P. Hanson, Rowley, Mass., assignors, by mesne assignments, to said Higonnet and said Moyroud

Filed Oct. 1, 1957, Ser. No. 687,572
17 Claims. (Cl. 95—4.5)



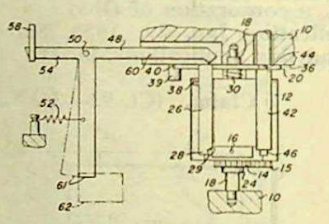
1. In apparatus for type composition, a rotatable shaft having an angular position for each of a number of fonts, a register to represent the characters in a line of type and a distinctive code for each of said fonts to be inserted at a selected position in said line, and transcription means including cyclically operated means to read the characters and font codes successively from the register and to space the characters, a decoder associated with said shaft, connections from said cyclically-operated means to said decoder, a circuit to rotate the shaft and to interrupt the cyclic operation of said reading means, and means to reinstate said cyclic operation and to stop the shaft when the decoder reaches a position which matches said code.

2,999,435

AUTOMATIC EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERAS

Paul Harter, Stuttgart-Wangen, and Erwin Staudt, Stuttgart, Germany, assignors to Eastman Kodak Company, Rochester, N.Y.

Filed Jan. 4, 1960, Ser. No. 178
Claims priority, application Germany Feb. 14, 1959
8 Claims. (Cl. 95—10)



1. In a camera including a frame; first and second adjustable exposure control elements; an exposure meter with a photocell disposed for illumination by scene light and an electric measuring instrument connected to said photocell, said instrument having a body coupled to said first element and movable relative to said frame for adjustment in conjunction with said first element, said instrument also having a pointer deflected differentially as a function of scene brightness in a predetermined path from a zero position relative to said instrument body; a camera operating member disposed for manual actuation; and means coupled to said operating member and coop-

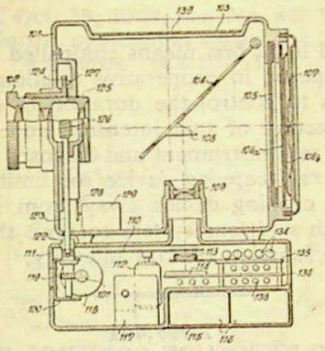
erating with said second element and said pointer for adjusting said second element as a function of the position of said pointer relative to said camera frame; the combination comprising: a sensing member movable in one path along with said instrument body and movable in a direction crossing the path of said pointer at the zero position of said pointer relative to said instrument body; and a member intercoupling said operating member and said sensing member for moving the latter toward the path of said pointer in response to actuation of said operating member, said intercoupling member being blocked by said sensing member, and thereby blocking said actuation, when said pointer is in its zero position relative to said instrument body.

2,999,436

PROCESS AND DEVICE FOR AUTOMATICALLY ADJUSTING OPTICAL INSTRUMENTS

Fritz Faulhaber, Schonaich, Bezirk Boblingen, Germany, assignor to Voigtländer, A.G., Braunschweig, Germany, a corporation of Germany

Filed Sept. 1, 1955, Ser. No. 532,020
Claims priority, application Germany Sept. 4, 1954
14 Claims. (Cl. 95—10)



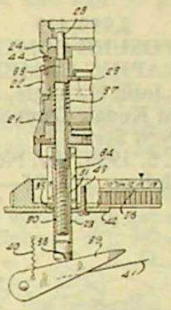
1. Apparatus for automatic sharp focusing of optical devices comprising a camera; an objective adjustably mounted in said camera for adjustment along its own axis to vary the sharpness of focusing; a photoelectric organ supported in relatively fixed relation to said objective; optical elements in said camera positioned and arranged to direct light entering through said objective onto said photoelectric organ; an opaque slit diaphragm positioned in the path of light directed onto said photoelectric organ; driving means connected to said diaphragm to move the latter to intermittently interrupt the light directed toward said photoelectric organ, said means producing in the photoelectric organ an output current having a characteristic wave shape varying with the sharpness of focusing of the objective and with the relative ratio of high frequency harmonics to low frequency harmonics varying in accordance with the wave shape in such manner that, at sharp focusing of the objective, the proportion of high frequency harmonics is much greater than the proportion of low frequency harmonics; filtering means connected to the output of said photoelectric organ and effective to separate the output current into two components, one containing a band of the high frequencies and the other containing a band of the low frequencies; comparison means connected to the output of said filtering means and effective to provide a control signal proportional to the quotient of the high frequency band component divided by the low frequency band component; servo mechanism connected to said objective to adjust the same along its axis; translating means connected between said comparison means and said servo mechanism for energizing the latter responsive to increasing values of said control signal to adjust said objective toward the position of sharp focusing; the control signal attaining a stable maximum value when the objective is in the position of sharp focusing, and said translating means de-energizing said servo mechanism when the control signal attains a stable maximum value.

2,999,437

PHOTOGRAPHIC SHUTTERS

Erich Hahn, Werner Hahn, and Rolf Noack, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden

Filed Oct. 10, 1957, Ser. No. 689,428
9 Claims. (Cl. 95—10)



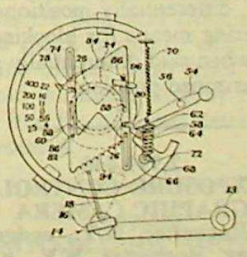
1. In a camera having a housing, a photographic exposure control mechanism comprising first exposure factor setting means including a first rotatable setting ring, second exposure factor setting means including a second rotatable setting ring, a cylindrical cam surface on one edge of said first ring, a control rod extending transversely to the plane of said first ring, means for biasing said control rod against said cam surface for axial motion in response to rotation of said first ring, a control sleeve threaded to the free end of said control rod for axial movement thereof due to axial movement of said control rod, said second setting means including coupling means connecting said control rod to said second ring for rotating said rod, means for controlling the rotation of said control sleeve whereby upon rotation of said rod said sleeve is axially moved, and indicating means responsive to the position of said sleeve, for indicating the composite positions of said setting means.

2,999,438

AUTOMATIC EXPOSURE CONTROL SYSTEM

Hubert Nerwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 5, 1958, Ser. No. 778,429
7 Claims. (Cl. 95—10)



1. In a camera having a lens system for focusing an image of a viewed scene onto a photosensitive surface and having a multiple-speed shutter mechanism including means for setting the exposure time of said shutter mechanism; the combination comprising: a light-measuring instrument adapted to be differentially energized by scene light as a function of the intensity of said light; a diaphragm mechanism having a variable exposure aper-

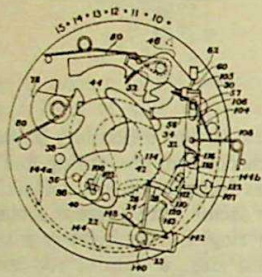
ture aligned with said lens system and comprising at least one sliding blade having a cam-shaped edge; first means controlled by said instrument and disposed in cooperative relation with said diaphragm mechanism for limiting the size of said aperture as a function of said intensity, said limiting means including a member differentially moved by said instrument relative to said cam-shaped edge for limiting the sliding movement of said blade as a function of the position of said member; means for sliding said blade into contact with said member; and second means controlled by said instrument and disposed in cooperative relation with said setting means to determine said exposure time as a function of said intensity.

2,999,439

AUTOMATIC EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERA

Hubert Nerwin and John H. Eagle, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 5, 1958, Ser. No. 778,430
6 Claims. (Cl. 95—10)



1. In a camera having a lens system for focusing an image of a viewed scene onto a photosensitive surface, the combination comprising: a shutter mechanism including a capping device normally interposed between said scene and said surface in alignment with said lens system for completely blocking said image from said surface and adapted, in response to triggering said shutter mechanism, for temporarily moving said capping device away from its position of alignment with said lens system for a preselected exposure time to establish an effective exposure aperture; manually operable means for triggering said shutter mechanism; a light-measuring instrument adapted for energization by scene light and having a member differentially positioned as a function of scene brightness, said member being disposed in cooperative relation with said capping device for limiting the movement of said capping device away from its position of alignment with said lens system to determine the size of said aperture as a function of scene brightness; and means interrelating said differentially positioned member and said shutter triggering means for blocking manual operation of the latter when said differentially positioned member is in a predetermined position.

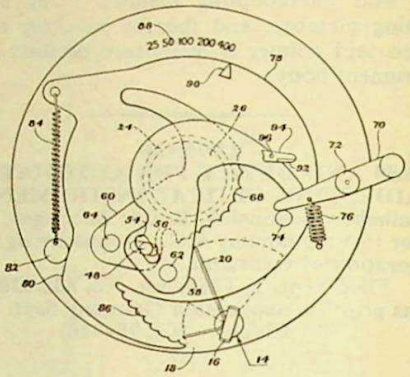
2,999,440

AUTOMATIC EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERA

Hubert Nerwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 5, 1958, Ser. No. 778,431
8 Claims. (Cl. 95—10)

1. In a camera having a lens system for focusing an image of a viewed scene onto a photosensitive surface and having a multiple-speed shutter mechanism including at least one capping device normally interposed between said scene and said surface in alignment with said lens system for completely blocking said image from said surface and adapted, in response to operation of said shutter mechanism, for temporarily moving said capping device at least partially out of alignment with said lens system for a selected period of time to establish an exposure aperture, said shutter mechanism also including means for selecting the duration of said period of time; the combination comprising: a light-measuring instrument adapted to be exposed to light from said scene and differentially energized thereby as a function of the in-



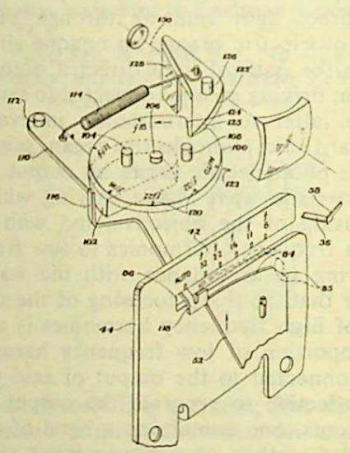
tensity of said light; first means controlled by said instrument and disposed in cooperative relation with said selecting means to control the duration of said period of time as a function of said intensity; and second means controlled by said instrument and disposed in cooperaitve relation with said capping device for limiting the movement of said capping device away from its position of alignment with said lens system to limit the size of said aperture as a function of said intensity.

2,999,441

AUTOMATIC EXPOSURE CONTROL SYSTEM FOR PHOTOGRAPHIC CAMERAS

Miller H. Hutchison, Jr., Robert F. O'Brien, and Edgar S. Marvin, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 2, 1959, Ser. No. 796,309
11 Claims. (Cl. 95—10)



1. In a camera having a lens system for focusing an image of a viewed scene onto a photosensitive surface; a photocell positioned for energization by said scene; an electric measuring instrument having a pivoted coil connected to said cell and energized thereby to assume an angular position as a function of the intensity of said light; a pointer driven by said coil; an actuating device accessible to the camera operator; at least one movable diaphragm vane forming an exposure aperture aligned

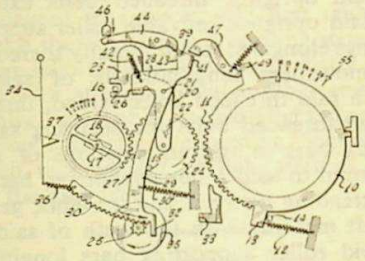
with said lens system, the size of said aperture being a function of the position of said vane; and sensing means connected to said vane for movement in a predetermined path to sense the position of said pointer upon movement of said vane, for determining the size of said aperture; an arrangement for positioning said vane, comprising: a first spring normally maintaining said actuating device in an initial position and adapted to be overcome by manual movement of said device away from said initial position; a second spring opposed to said first spring and having a force lighter than the force of said first spring, for moving said vane and for moving said sensing means into engagement with said pointer in response to movement of said actuating device away from said initial position; override means adapted for movement into the path of said sensing means for intercepting said sensing means irrespective of the position of said pointer; and manually operable selecting means coupled to said override means for moving the latter into said path.

2,999,442

AUTOMATIC PHOTOGRAPHIC DIAPHRAGM

Sho Takahama, Nishinomiya-shi, Hyogo-ken, Japan, assignor to Yashica Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Oct. 30, 1959, Ser. No. 849,953
Claims priority, application Japan Jan. 14, 1959
8 Claims. (Cl. 95—10)



1. An improved automatic light responsive diaphragm mechanism, comprising a light meter rotated first gear, a rack carrying movable diaphragm control member, an idler gear, means alternatively supporting said idler gear in engagement with said first gear and said rack, said idler gear being rotated to a predetermined position by said first gear in accordance with the light actuating said meter, and means rotating said idler gear when in engagement with said rack in accordance with said predetermined position thereof to move said diaphragm control member an amount corresponding to the position of said first gear.

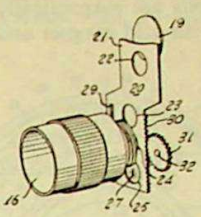
2,999,443

OPTICAL FILTER COMPENSATION MEANS COUPLED TO EXPOSURE-RESPONSIVE DEVICE

Hideo Miyauchi, Okaya-shi, Nagano-ken, Japan, assignor to Yashica Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 1, 1959, Ser. No. 856,469
Claims priority, application Japan Dec. 28, 1958
10 Claims. (Cl. 95—10)

1. Filter compensation means for use with an optical device including a body, a lens having an optical axis and a photo-mechanical translator including a photo transducer, comprising a plate having a plurality of apertures formed therein, movably mounted to said body to follow a path which sequentially brings said apertures into registration with the optical axis of said lens, an optical filter mounted in at least one of said apertures in said plate, and masking means consisting of a substantially opaque member connected to and movable with said plate and so shaped and positioned as to intercept a predetermined fraction of the light directed at said transducer when



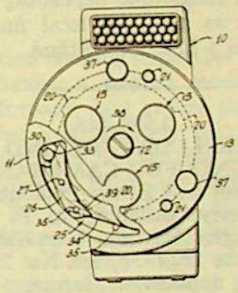
said filter registers with said optical axis and permit the remaining fraction of said light to pass substantially undiminished.

2,999,444

TURRET DETENT MEANS

Hideo Miyauchi, Okaya-shi, Nagano-ken, Japan, assignor to Yashica Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Nov. 12, 1959, Ser. No. 852,522
Claims priority, application Japan Dec. 10, 1958
7 Claims. (Cl. 95—45)



1. Camera turret means for use with a camera which includes a camera body housing and a fixed lens mounted therein comprising a turret head rotatably mounted to the front wall of said body, said turret having formed therein sets of detents and of lens apertures, each said set including a plurality of the same number of equiradially spaced apertures, detent means reciprocally mounted to said front wall to sequentially engage said detent apertures as said head is rotated, resilient means biasing said detent means toward a forward position, said apertures being spaced so that as one of said lens apertures registers with said fixed lens said detent means engages a detent aperture and blocking means comprising a checking lever pivotally connected to said front wall of said camera housing, means connected to said camera housing and lever biasing a first end of said lever towards said detent means and forward of the same when said detent means are displaced from said forward position thereof, and check means to contact said lever and move said first end thereof away from said detent means as said turret head is rotated, thereby freeing said detent means for entry into the next-met detent aperture as said head is further rotated.

2,999,445

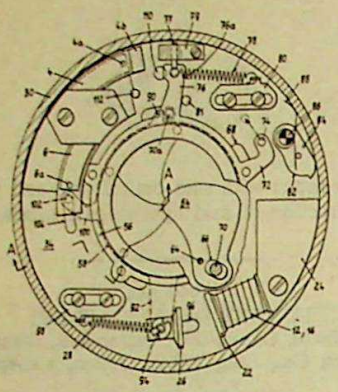
PHOTOGRAPHIC SHUTTER

Paul Fahlenberg, Baierbrunn, near Munich, Germany, assignor to Compur-Werk Friedrich Deckel OHG, Munich, Germany, a firm of Germany

Filed June 9, 1960, Ser. No. 35,070
Claims priority, application Germany June 19, 1959
8 Claims. (Cl. 95—63)

1. An electrical timing device for photographic cameras comprising a delay circuit means including a capacitor and resistor in series and also a first inductance coil, a source of potential for said circuit means, and compensat-

ing circuit means including a second inductance coil connected through a potentiometer with said source of potential, characterized by a permanent magnet with which said first and second coils are magnetically coupled, an armature cooperating with said magnet and biased by a spring



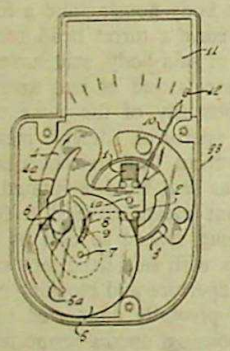
which opposes the magnetic force of attraction, the first of said coils producing a constant magnetic flux while the second of said coils produces an oppositely directed flux which changes in magnitude depending on the changing capacitor charge so that the total flux acting on the armature varies as a function of time.

2,999,446

AUTOMATIC IRIS CONTROL AND INDICATING UNIT FOR CAMERAS

Heinrich Hautmann and Erwin Pfaffenberger, Erlangen, Bavaria, Germany, assignors to P. Gossen & Co. G.m.b.H, Erlangen, Bavaria, Germany

Filed June 19, 1958, Ser. No. 743,073
Claims priority, application Germany Jan. 25, 1958
2 Claims. (Cl. 95—64)



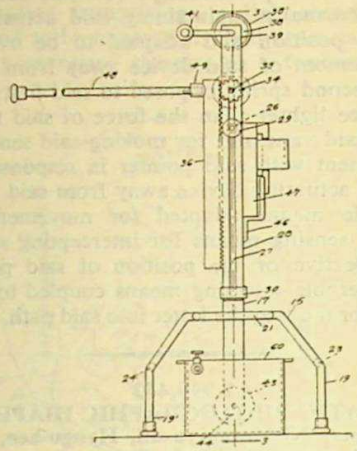
1. An automatic iris control and indicating unit for photographic cameras, comprising a photocell, a housing, a measuring mechanism of the moving coil type electrically connected to the photocell, the coil of the measuring mechanism being mounted in said housing for rotation in accordance with an electric current generated by the photocell when light energy impinges thereon, a first iris blade having an aperture, a connection rigidly mounting said first iris blade on the moving coil in a plane substantially normal to the axis of rotation thereof, a projecting element on said first iris blade, a second iris blade having an aperture, means for mounting said second iris blade in a plane parallel to and adjacent the first iris blade and for rotation relative to said first iris blade, said second iris blade having a curved slot, and the projecting element of said first iris blade projecting into said slot for transmitting the rotary motion of the moving coil to said second iris blade, said apertures being arranged jointly to define a lens aperture in dependence upon the light impinging on the photocell.

2,999,447

DEVELOPING MACHINE

James Leslie Harris, 1206 W. 1st St., Sulphur, Okla.

Filed Feb. 12, 1959, Ser. No. 792,795
2 Claims. (Cl. 95—94)



1. A photographic developing apparatus embodying a frame comprised of inverted U-shaped supporting legs adapted to fit over a developing tank, uprights secured to said supporting legs, horizontal upper and lower rods connecting said uprights, threaded bolts extending laterally from said uprights, movable roller supporting bars having openings elongated longitudinally thereof, mounted for sliding movement longitudinally of said uprights, through which said threaded bolts extend, threaded hand wheels on said threaded bolts for securing said uprights and supporting bars in various positions of adjustment, rack bars secured to said roller supporting bars, an operating shaft extending between said uprights, gears on said operating shaft meshing with the teeth of said rack bars in moving said roller supporting bars longitudinally of said uprights, a power roller mounted at the upper ends of said rack bars over which a roller moves, said uprights having bearing openings at the lower ends thereof, an idle roller mounted in said bearing openings, over which the endless film being developed is rotated, said legs of said frame removably supporting said idler roller and portion of film under treatment, within said tank, for effecting rotation of said power roller, and handles for effecting movement of said frame with respect to said tank.

2,999,448

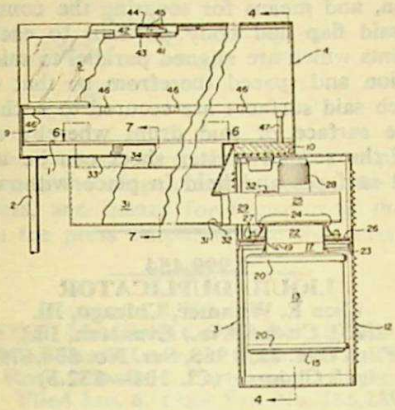
DUST FREE WORK BENCH APPARATUS

Robert A. Abler, Los Altos, and Floyd L. Becker and David G. Clifford, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Mar. 6, 1958, Ser. No. 721,077
4 Claims. (Cl. 98—115)

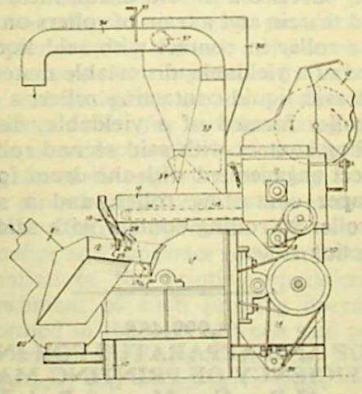
4. A dust free work bench apparatus including, a first table, a cabinet partially enclosing the top of said first table, said cabinet forming a shelf extending substantially the entire length of said first table and having a width substantially greater than one half the width of said first table whereby materials may be stored externally of said dust free cabinet as desired, a blower for supplying air to said cabinet, a substantially cylindrical filter canister for filtering the air supplied to said blower, an air duct extending lengthwise of said first table disposed below said first table and interconnecting said blower and said cabinet for distributing air to said cabinet, said air duct having an elastic wall portion thereof for absorbing undesired mechanical vibration applied thereto, said air duct being disposed in the bottom and rear of said cabinet

and opening upwardly and having a tapered air distribution slot communicating between said cabinet and said air duct for providing even air flow distribution longitudinally of said table, a housing structure adapted to be supported on a floor and enclosing said blower and said filter canister and disposed substantially entirely below the level of said first table, a shock absorbing assembly disposed between said blower and said housing structure for absorbing un-



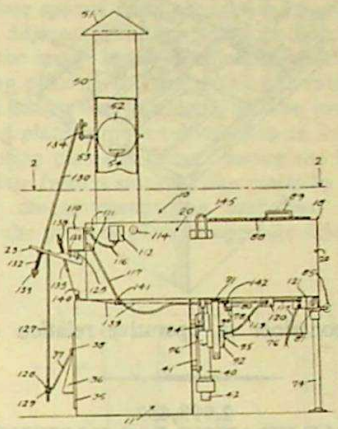
desired vibration produced by said blower, said housing structure adapted to support said first table at substantially one end thereof and said housing structure adapted to support an adjoining second substantially identical dust free work bench at the respective other end thereof, and an externally accessible sealed light housing fixedly secured to said cabinet and extending longitudinally thereof to permit replacement of light fixtures without contaminating the dust free area.

2,999,449
STOCK FEED GRINDING AND MIXING APPARATUS
John K. Roskamp, 616 Grand Blvd., Cedar Falls, Iowa
Filed Aug. 16, 1960, Ser. No. 49,969
8 Claims. (Cl. 99—235)



6. In combination with a corn shelling unit, a whole cob discharge unit having a cob receiving duct, and a corncob grinding unit; a cob proportioning gate for intercepting a selected proportion of discharged whole cobs for grinding, said gate comprising a baffle member slidably supported above said duct for lateral adjustment in the path of the discharged corncobs, said baffle being inclined to divert the intercepted whole cobs to said grinding unit.

2,999,450
COMBINATION COOKING APPARATUS
James C. Jackson, 1331 Pendleton St., Columbia, S.C.
Filed July 25, 1960, Ser. No. 44,996
11 Claims. (Cl. 99—262)

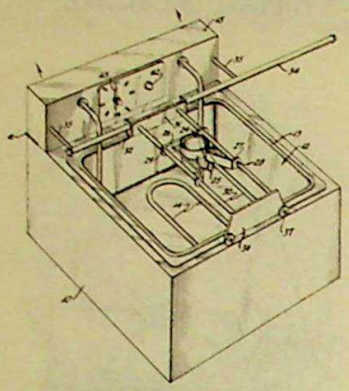


1. A combination cooking apparatus comprising a furnace, a casing having a portion mounted on and supported by said furnace, said casing portion constituting a heating chamber and having a bottom opening opening into the top of the furnace for receiving heat and products of combustion from said furnace, a stack communicating with the interior of said casing and extending upwardly therefrom for carrying off the products of combustion from said casing, a pan adapted to hold food items to be cooked contained within said casing, means supporting said pan for rotation within the casing, means supported by said casing and connected to the pan for revolving the pan within the casing for causing different portions of the pan to pass successively through said heating chamber and over said bottom opening during each revolution of the pan for effecting a uniform cooking of the entire contents of the pan, said casing having a portion disposed behind the furnace constituting a cold air chamber through which portions of the pan move successively during each revolution of the pan, partitions disposed within said casing separating the heating chamber from said cold air chamber, said casing bottom having an opening defining a cold air inlet opening into said cold air chamber beneath a part of the pan bottom, and a shield secured to said casing and extending into a part of the open top of the pan above said cold air inlet and cooperating with said partitions for directing the cold air from said cold air chamber to the stack.

2,999,451
FRYER
Porter A. Buck, Rte. 1, Box 394, Maitland, Fla., and Richard G. Crist, 815 Madison Blvd., Orlando, Fla.
Filed May 7, 1959, Ser. No. 811,660
5 Claims. (Cl. 99—353)

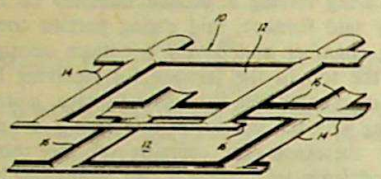
2. A device for holding and subjecting material to temperature modification comprising a container, a header pivoted on said container, temperature modification means carried by said header in a manner to be disposed within said container when the header is in one position and exteriorly of said container when said header is in an opposite position, hopper mounting means, spaced means for supporting said hopper mounting means from opposite sides of said container for movement between said sides, and means for supporting said hopper mounting means

on said spaced means whereby said hopper mounting means can be moved to and fro and from side to side



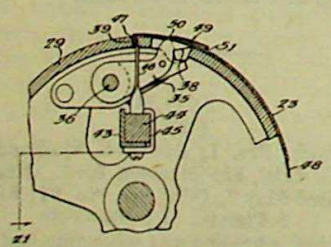
above said container in operative relation above said container.

2,999,452
DISPOSABLE WRAPPER FOR COOKING FOOD
Thomas A. Hardy, 3205 Tampa St., Houston, Tex.
Filed Sept. 29, 1958, Ser. No. 764,117
2 Claims. (Cl. 99—402)



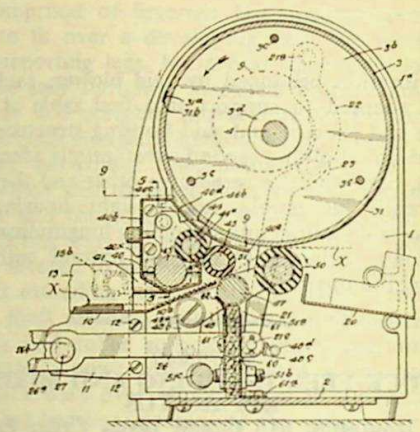
1. A wrapper for use in cooking food comprising a thin foldable sheet of metal having openings therethrough distributed substantially uniformly throughout the area of the sheet and formed with intersecting strip-like portions extending continuously across the sheet between the openings and having portions of trough shape in cross-section whose opposite ends are closed adjacent the intersections of the strip-like portions.

2,999,453
MEANS FOR LINE PRINTING
John R. Roberts, Maplewood, N.J., assignor to Ditto, Incorporated, a corporation of Delaware
Original application May 18, 1949, Ser. No. 93,941, now Patent No. 2,707,433, dated May 3, 1955. Divided and this application May 2, 1955, Ser. No. 505,407
1 Claim. (Cl. 101—132)



In a duplicating machine, a drum having grippers for securing a master sheet to the surface of said drum, a slot in said drum surface and extending in an axial direction, a combined block-out and master sheet holder comprising a flexible sheet adapted to overlie a master sheet engaged by said grippers, means on said flexible sheet to carry a second master sheet, the top marginal portion of said flexible sheet being adapted to fit into the slot, and means for retaining said marginal portion in said slot and for permitting the shifting of said block-out and master sheet holder in an axial direction, said flexible sheet having said top marginal portion formed of magnetic material and having a body portion which constitutes a block-out portion, and said means for carrying a second master sheet constituting a flap portion disposed adjacent said marginal portion and overlying said block-out portion to provide normally contacting surfaces, said flap portion being shorter than said block-out portion, and means for securing the contacting surfaces of said flap and body portions to each other at certain points which are aligned parallel to said top marginal portion and spaced therefrom so that said points along which said surfaces are secured to each other will overlie the surface of said drum whereby a marginal portion of the second master sheet can be wedged between said surfaces and held in place without crimping the same.

2,999,454
LIQUID DUPLICATOR
Glen E. Wimmer, Chicago, Ill.
(231 Custer Ave., Evanston, Ill.)
Filed Dec. 22, 1955, Ser. No. 554,679
11 Claims. (Cl. 101—132.5)

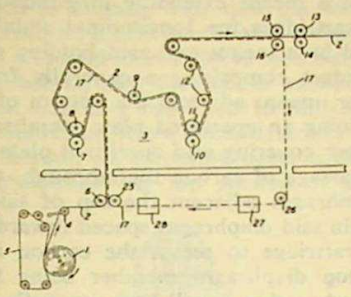


1. In a duplicating machine, a support, a drum rotatably mounted on said support and means for rotating it, means for feeding paper sheets to the drum and moistening the paper sheets fed to said drum, including a trough having liquid therein and a train of rollers on said support, comprising a roller in contact with said liquid, a second roller formed of a yieldable, distortable material in rolling contact with said liquid contacting roller, a driven paper contacting roller formed of a yieldable, distortable material in rolling contact with said second roller, a driving roller in direct engagement with the drum for driving the aforesaid paper contacting roller, and a second paper contacting roller in rolling contact with said first named paper contacting roller.

2,999,455
METHOD OF AND APPARATUS FOR INCREASING THE EFFICIENCY OF PRINTING MACHINES
Harry Zeimer, 47 Rue Guy Moquet, Paris XVII, France
Filed Apr. 7, 1958, Ser. No. 726,915
15 Claims. (Cl. 101—225)

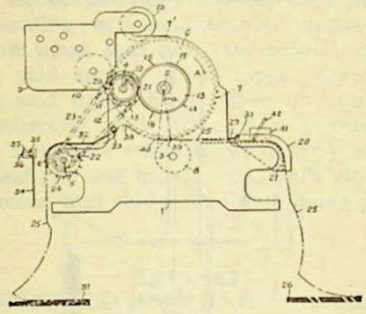
7. Apparatus for reinforcing a paper web while in transport through a printing press and during the printing thereon by the press, comprising a continuous flexible strip of a material of greater resistance to tearing than the paper web, means for applying the strip to a lateral marginal region of the web to leave substantially the entire printing area of the web exposed, the strip being so attached at the input side of the press to

the web that the strip is free of engagement with the web transport means of the press, and for maintaining the application of the strip to the marginal web portion



through the passage thereof through the press, means for separating the strip and the web at the output side of the press, and means for transporting the separated strip from the press output side to the press input side.

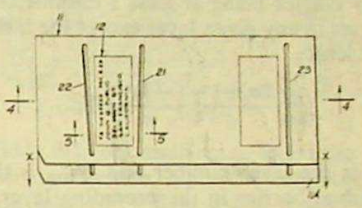
2,999,456
PRINTING MACHINE FOR PUNCHED PAPER
Frederick Edward Lanegan, Vine Cottage, 139 Drift Road, Clanfield, Portsmouth, England
Filed Jan. 6, 1959, Ser. No. 785,289
11 Claims. (Cl. 101—228)



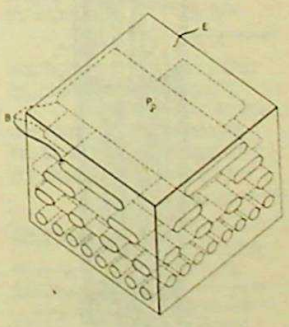
10. A printing machine for printing a longitudinally punched web, comprising, in combination, a printing roller; a printing form on said printing roller; means for continuously rotating said printing roller; pressure-applying means movable to and from an operative printing position cooperating with said printing form along a printing line for printing and transporting the paper web; a pin wheel drive adapted to engage punched holes in the punched web for drawing the web away from said printing roller; drive means for intermittently driving the pin wheel drive and including means operatively connected to said printing roller for synchronizing the intermittent operation of said pin wheel drive with the passage of said printing form through the printing line in such a way that the pin wheel drive is at rest at the commencement of each printing operation but starts to rotate shortly thereafter and continues rotation for a certain time after termination of the printing operation so that at the commencement of each printing operation a slack portion is formed in the web between said printing roller and said pin wheel drive and so that the slack portion is made taut by said pin wheel drive while the web is released by said printing roller and pressure applying means before the next following printing operation.

2,999,457
PAPER ADDRESS PLATE
Daniel J. Hushek, 630 Davis, Melrose Park, Ill.
Filed May 19, 1960, Ser. No. 30,226
2 Claims. (Cl. 101—369)

1. A paper printing plate of the kind adapted to be used in a machine handling system wherein a number of paper printing plates are fed seriatim from a stack to a printing station, said paper printing plate including a printing area having a hectographic image formed on one surface thereof, the location of said printing area corresponding to the location of like printing areas on a number of similar printing plates to be used in the machine handling system, means for maintaining an image on a printing plate spaced from an opposed surface on an immediately adjacent printing plate both to prevent offsetting of the image onto the adjacent printing plate while the printing plate is stacked with a plurality of printing plates and to prevent smudging of the image whenever the printing plate is moved relative to an immediately adjacent printing plate, as occurs during the feeding of the printing plate from a stack of like plates to a printing station, said means comprising embossed rail members formed in the printing plate at opposite sides of the printing area and generally longitudinally aligned with the direction in which the plate is to be moved in the machine handling system, each rail member including both a ridge projecting from the surface of the plate bearing the image at a height greater than that of the image and a groove in the surface of the plate opposite that bearing the image, whereby some nesting of the ridges of one printing plate in the grooves of an adjacent printing plate may occur in a stack of printing plates, said rail members being slightly skewed with respect to one another and the direction in which the printing plate is to be moved in the machine handling system for causing the ridges of one printing plate to ride out of the grooves of an adjacent printing plate immediately upon relative movement between the printing plate to separate the plates from a nested condition and insure against smudging of the images between adjacent printing plates.



2,999,458
SURFACE WAVE GENERATOR
David L. Coursen, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 1, 1958, Ser. No. 745,873
3 Claims. (Cl. 102—22)



1. A surface wave generator wherein the natural detonation front is distorted to arrive simultaneously at a plurality of finish points on a surface which consists of a mass of a cap-sensitive high explosive within which mass are disposed at least six inert rod-shaped barriers each of

which barriers extends from a surface of said mass to another surface of said mass, said barriers defining a continuous matrix of said explosive and delimiting a series of paths from an initiation point to each of said finish points, each of said paths being of sufficient cross-sectional area to support the detonation, the shortest path from said initiation point to any one finish point being substanially equal to the shortest path from said initiation point to any other finish point, said barriers being stacked in at least four parallel layers, the barriers in each of said layers being parallel, coplanar, and separated by a gap of at least 0.3 millimeter, the barriers in each of said layers crossing perpendicularly the barriers in the immediately adjacent layers and lying directly over the gaps between barriers in the next-to-nearest lower layer, each of said barriers having a cross-sectional area of at least 3 square millimeters and sufficient to prevent the propagation of the detonation through the barrier, the minimum dimension of any barrier being at least 1 millimeter, the length of the barrier in any given layer except the last layer being equal to at least

$$\left(\frac{2n+1-(-1)^n}{4}\right)W_{n-1}$$

wherein n is the layer number and W_{n-1} is the width of each individual barrier in the preceding layer, the length of the barrier in the last layer being equal to at least

$$\left(2\frac{[2N-1+(-1)^N]}{4}\right)W_{N-1}$$

wherein N is the total number of barrier layers and W_{N-1} is the width of each individual barrier in the next-to-last layer, the number of barriers in any given layer except the last layer being equal to at least

$$\frac{2n+1-(-1)^n}{4}$$

wherein n is the layer number, the number of barriers in the last layer being equal to at most

$$2\frac{[2N-3-(-1)^N]}{4}$$

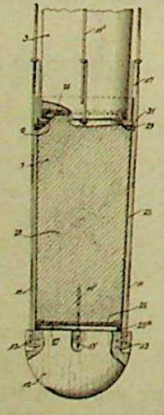
wherein N is the total number of barrier layers.

2,999,459

APPARATUS FOR HANDLING EXPLOSIVE CARTRIDGES

Lester P. Barlow, Stamford, Conn., assignor to Atlas Powder Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 25, 1954, Ser. No. 452,125
6 Claims. (Cl. 102—24)



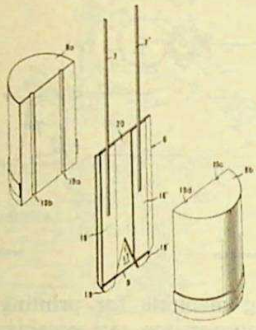
1. A blasting unit comprising a plurality of cartridges of carbonaceous material which are to be charged with liquid-oxygen, said cartridges being assembled into end-to-end vertical relationship with similar cartridges, a rigid base means on which the lowermost of said cartridges rests, cable holding means over the uppermost of said cartridges, cable means extending longitudinally of said plurality of cartridges for longitudinal stability and attached to said base means and said holding means, each of said cartridges comprising a generally frusto-conical sleeve member, means adjacent the bottom of said sleeve member retaining an apertured plate member, a foraminous diaphragm covering said apertured plate member to prevent the passage of carbon therethrough, a second foraminous diaphragm adjacent the top of said cartridge, means to retain said diaphragm spaced inwardly from the top of said cartridge to retain the carbon in said cartridge, said top diaphragm member being flexible and loosely retained so that it will bow upwardly as the oxygen evaporates to cause contact with an adjacent cartridge, and cable engaging means positioned intermediate adjacent cartridges to secure said cartridges against lateral displacement.

2,999,460

ELECTRIC BLASTING CAP

Henry Joseph Stinger, Mendenhall, Pa., and Tadeusz Michael Urban, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 2, 1959, Ser. No. 796,350
4 Claims. (Cl. 102—28)



1. An electric blasting cap comprising a shell containing a detonation composition and an ignition composition in initiating proximity thereto, a plug member formed in two one-piece mating sections above said ignition composition, a single, thin non-conducting film supported between the mating sections of the plug and projecting out and down therefrom, a notch in the lower end of said film which protrudes out from the bottom of the plug, a pair of separate and distinct conducting ribbons affixed along the surface of said film, each ribbon terminating at one end along one side of said notch, a bridgewire in initiating proximity to the ignition composition stretching across the mouth of the notch and secured at either end in electrical contact with one of the two separate conducting ribbons, each of said ribbons also being in electrical contact with one of a pair of leg wires entering the cap at the end remote from the detonating composition and mounted between the mating sections of the plug member.

2,999,461

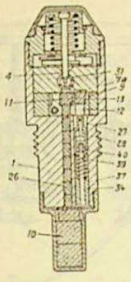
IMPACT FUZE

Robert Apotheloz, Wallisellen, Zurich, and Max Huber, Zurich, Switzerland, assignors to Machine Tool Works Oerlikon, Administration Company, Zurich-Oerlikon, Switzerland, a company of Switzerland

Filed Mar. 23, 1959, Ser. No. 801,226
Claims priority, application Switzerland Mar. 28, 1958
3 Claims. (Cl. 102—75)

1. A delay impact fuze for projectiles comprising a fuze casing having a longitudinally extending bore there-

in, a slide transversely slidable in said casing, means for moving said slide from a safety position to a firing position, a forward striking pin located in said bore, a detonator which is aligned with said pin when said slide is in firing position, a first inertia sleeve slidably mounted in said bore, a second inertia sleeve also slidably mounted in said bore behind said first sleeve and normally abutting said first sleeve, a rod fixed to said casing located within said sleeves having a circumferential groove at the upper part thereof, an extension upon said pin having a bore accommodating the top portion of said rod, said

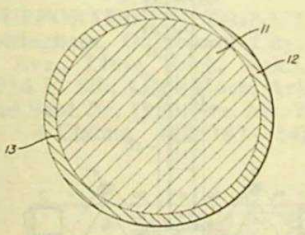


extension having recesses extending transversely thereof, balls in said recesses cooperating with said circumferential groove in said rod and with said first and said second inertia sleeve normally locking said pin, a striker spring cooperating with said second inertia sleeve and said extension upon said pin, said second inertia sleeve compressing said spring upon impact against said pin and moving said first inertia sleeve into abutment with said slide whereby said striker spring operative upon deceleration separates said sleeves thereby releasing said balls from said rod and moving said balls along said bore of said extension and said pin to detonating position.

2,999,462
RESTRICTED AMMONIUM NITRATE PROPELLANT

Robert A. Mosher and William G. Stanley, Seymour, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 26, 1957, Ser. No. 705,460
6 Claims. (Cl. 102—98)

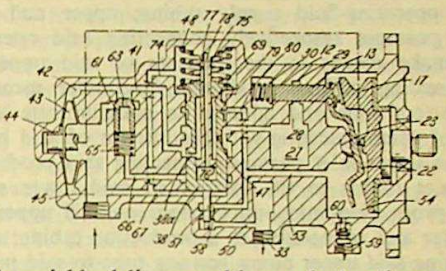


1. A solid propellant comprising a shaped body portion, formed of ammonium nitrate as the major component and an oxidizable binder therefor, and a combustion restrictor coat positioned immediately contiguous to that part of the surface of said body where direct burning is to be prevented, which restrictor consists essentially of the resin reaction product of (*a*) an epoxy resin having an epoxide equivalent weight between about 165 and 215 derived from epichlorohydrin and a bisphenol with (*b*) a liquid polysulfide polymer having an average molecular weight on the order of 1000 derived from alkali metal polysulfide, dichloroethyl formal and a minor amount of trichloro-lower-alkane, and with (*c*) a polyalkylene polyamine, the weight ratio of said epoxy to said polysulfide having been between about 70:30 and 35:65 and the amount of said polyamine having been between about 5 and 15 parts by weight per 100 parts of epoxy plus polysulfide reactants and wherein said restrictor coat is obtained by contacting said surface with a mixture of said reactants.

2,999,463
VARIABLE-DELIVERY MULTI-STAGE HYDRAULIC PUMPS

Alan Cameron-Johnson, Gloucester, England, assignor to Rotol Limited, Gloucester, England, a British company

Filed Sept. 4, 1958, Ser. No. 759,072
Claims priority, application Great Britain Sept. 11, 1957
11 Claims. (Cl. 103—5)

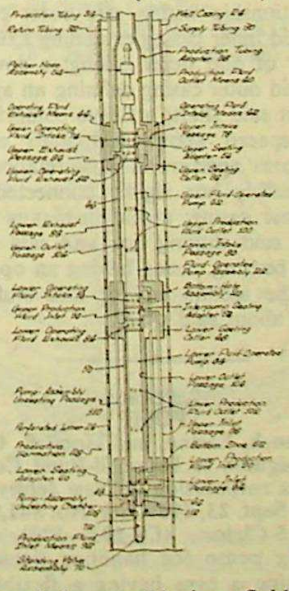


1. A variable delivery multi-stage hydraulic pump unit comprising in combination, a positive displacement pump having a fluid inlet and a fluid outlet, a non-positive displacement pump for priming said positive displacement pump and also having a fluid inlet and a fluid outlet, conduit means connecting the fluid outlet of the priming pump with the fluid inlet of the positive displacement pump, valve means in the conduit means, a piston means in operative connection with the valve means which piston means is connected to be loaded by the delivery pressure of the unit and is arranged to cause the valve means to throttle the conduit on increase of the delivery pressure of the unit and biasing means subjected to loading in dependence upon the difference in pressure at the inlet and outlet of the priming pump, which biasing means is in operative connection with the valve means to bias the valve means to throttle the conduit.

2,999,464
TANDEM HYDRAULIC PUMP SYSTEM

Clarence J. Coberly, San Marino, Calif., assignor to Kobe, Inc., Huntington Park, Calif., a corporation of California

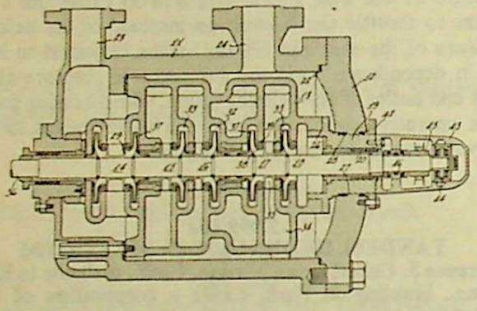
Filed Aug. 12, 1955, Ser. No. 527,971
5 Claims. (Cl. 103—49)



1. In a bottom-hole assembly for a fluid-operated pump assembly, the combination of: an upper sealing collar

engageable with the pump assembly adjacent the upper end thereof; an upper pump housing tube below and connected to said upper sealing collar and adapted to receive an upper portion of the pump assembly; a lower sealing collar below and connected to said upper pump housing tube and engageable with the pump assembly intermediate the ends thereof; a lower pump housing tube below and connected to said lower sealing collar and adapted to receive a lower portion of the pump assembly; a bottom shoe below and connected to said lower pump housing tube and engageable with the pump assembly adjacent the lower end thereof; operating-fluid intake means on said upper sealing collar and connectible to an operating-fluid supply tubing; upper and lower intake passages respectively connecting said operating-fluid intake means to the interiors of said upper and lower sealing collars; production-fluid inlet means on said bottom shoe and adapted to communicate with a well and communicating with the interior of said bottom shoe; an upper inlet passage connecting said production-fluid inlet means to the interior of said lower sealing collar; production-fluid outlet means on said upper sealing collar and connectible to a production tubing; means connecting said upper pump housing tube to said production-fluid outlet means; and means connecting said lower pump housing tube to said production-fluid outlet means.

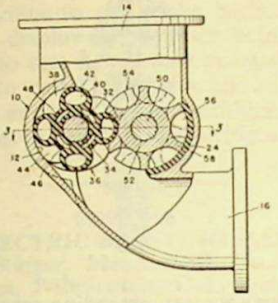
2,999,465
DOUBLE CASING MULTIPLE STAGE PUMP
Charles L. Babb, Brookfield, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed July 23, 1958, Ser. No. 750,388
3 Claims. (Cl. 103—107)



1. In a centrifugal pump: an outer casing having an open end; an inner casing having an open end mounted in spaced relationship within said outer casing; a shaft journaled in said inner casing extending axially therefrom to the exterior of said outer casing; a cover detachably mounted on said outer casing defining an aperture radially spaced about said shaft; a sleeve comprising a stuffing box radially spaced about said shaft and extending through said cover aperture in close relation thereto, one end of said stuffing box rigidly connected to the open end of said inner casing; a sealing means in sealing engagement with said stuffing box and said shaft; and an external thrust bearing casing having an open end rigidly connected to the second end of said stuffing box and radially spaced about said shaft.

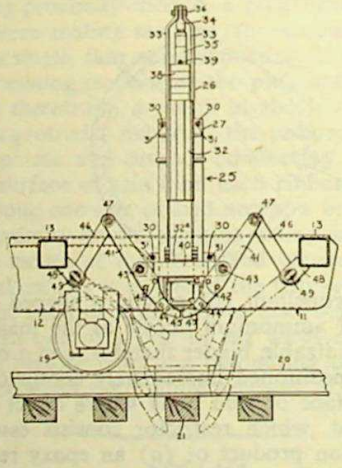
2,999,466
PUMP
Hanns Hornschuch, Easton, and Horst E. Greve, Raubsville, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 23, 1959, Ser. No. 841,813
5 Claims. (Cl. 103—128)

1. A non-clog pump for handling liquids and semi-liquids, comprising a case having a flexible wall member capable of being deformed and a non-flexible wall member, a rotor member having helical lobes and a second rotor member having helical pockets to receive such lobes rotatably mounted in said casing and forming working chambers defined in part by said case, one of said rotors being flexible and capable of being deformed and the other rotor being non-flexible, said rotor members rotatable in opposite directions to one another and cooperating with said wall members to form entrapments for delivering liquids and semi-liquids from one chamber to the other, said flexible rotor member in part in face to face relationship with said non-flexible wall member, said non-flexible rotor member in part in face



to face relationship with said flexible wall member, such that the entrapments are formed between cooperating flexible and non-flexible members such that said entrapment may be enlarged by deformation of the flexible member, and said flexible rotor member capable of deforming when in mesh with said non-flexible rotor, said flexible rotor having a series of spaced helical passages therein closed off from the exterior of the flexible rotor forming peripheral walls of said lobes and the recesses formed therebetween, said flexible walls capable of being deformed into said such passages.

2,999,467
RAILWAY POWER BALLASTER
Willis H. Knippel, Palos Park, Ill., assignor to Pullman Incorporated, a corporation of Delaware
Filed Sept. 27, 1957, Ser. No. 686,768
4 Claims. (Cl. 104—12)



1. In a power ballaster for tamping a railway road bed the combination comprising a machine having a frame including longitudinally spaced transverse members and supporting wheels, a vertically reciprocable drop-head having a front side and a rear side disposed transversely of said machine and operatively mounted on said frame between said transverse members, a tamping bar at each of said front and rear sides of said drop-head and each being disposed vertically and pivotally mounted intermediate its ends to said drop-head, said tamping bars

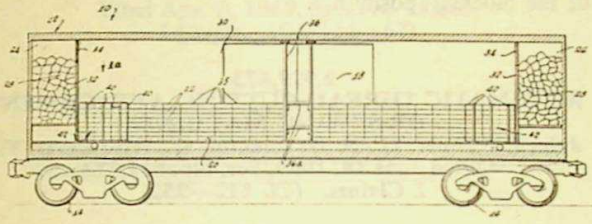
being swingable in longitudinal direction relatively to said machine, links adjacent both said front and rear sides of said drop-head respectively pivotally connecting the upper ends of said tamping bars to the transverse members of said frame, and means on said frame for raising said drop-head and tamping bars relatively to said frame and releasing them to fall free whereby to impact the lower ends of said tamping bars into the road bed with the links providing guiding means for operatively swinging said tamping bars in a controlled path of movement in response to rising and falling movement of said drop-head.

2,999,468

METHOD AND MEANS FOR LOADING PRODUCE CONTAINERS AND THE LIKE FOR SHIPMENT

Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California

Filed Aug. 14, 1959, Ser. No. 833,760
2 Claims. (Cl. 105—369)



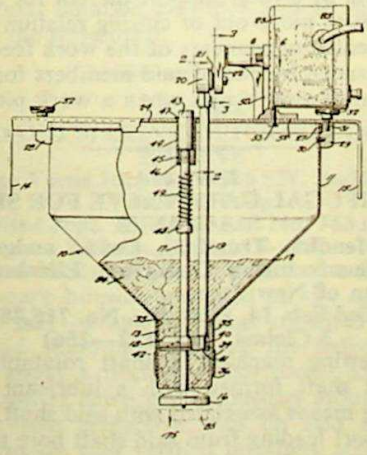
2. A loaded freight van comprising a van body including a relatively flat floor, a plurality of boxes supported on said floor in a series of vertical stacks arranged side by side in rows which extend lengthwise and crosswise of the van, means binding together all of the stacks in a plurality of said crosswise rows at each end of the van only to form at the ends of the van relatively massive, freely slidable bulkhead means, there being a plurality of unbound stacks between said bulkhead means, and said bulkhead means being slidable lengthwise of the van to compact said unbound stacks in response to relatively abrupt acceleration and deceleration forces on the van.

2,999,469

HAND SUPPORTED DOUGHNUT MACHINE

Morrison Cottingham, Oklahoma City, Okla. (814 S. University Ave., Little Rock, Ark.), and Galen E. Forsyth, 1914 E. 5th, Little Rock, Ark.

Filed Sept. 25, 1958, Ser. No. 763,217
4 Claims. (Cl. 107—14)



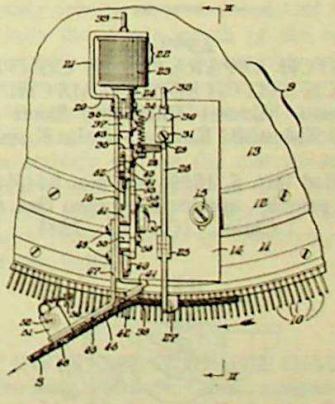
3. In a hand supported machine for forming doughnuts, the combination which comprises a hopper having a cylindrical upper section, a frusto-conical shaped intermediate section and a cylindrical neck depending from the lower end of the frusto-conical shaped section, a bar, channel-shaped in cross section extended across the upper end of the hopper and clamped to opposite edges thereof, a lower plunger positioned in the lower end of the neck, a stem extended from the lower plunger to a button slidably mounted in the cross bar on the upper end of the hopper, a spring on the stem mounted to urge the lower plunger upwardly to close the lower end of the neck, an upper plunger slidably mounted on said stem and disposed at an initial position in the intermediate hopper section, a vertically disposed rod secured to and extended upwardly from the upper plunger, a horizontally disposed loop-shaped cam on the upper end of the rod extended from the upper plunger, a substantially triangular shaped bracket having a flange on the lower end thereof that is mounted on the cross bar, said bracket having reversely positioned slots in the opposite ends thereof, a shaft rotatably mounted in the upper end of said bracket intermediate of the slots therein, an eccentric arm mounted on an end of the shaft extended from the end of the bracket toward the center of the hopper, a roller carried by the eccentric arm and positioned in the cam loop on the upper end of the rod, a motor having parallel spaced studs thereon that are mounted in the slots in the bracket that is mounted on the cross bar, and means operatively connecting the motor to the shaft rotatably mounted in the upper end of the bracket whereby reciprocation of the upper plunger is provided through the coaction of the roller on the eccentric arm with the cam loop, so that upon downward movement of said upper plunger the dough therebeneath will be trapped in said neck as said upper plunger descends and enters same, and the dough so trapped between said upper plunger and said lower plunger will be compressed and force the lower plunger downwardly to permit the escape of dough at the lower end of the neck and upon upward movement of said upper plunger said spring will force said lower plunger upwardly to its initial position in engagement with the lower end of the neck thereby severing the dough at the lower end of the neck to form a dough ring.

2,999,470

AUTOMATIC SELECTIVE DOFFING DEVICE FOR KNITWEAR LOOPING MACHINES

Howard L. Beamon, Winston-Salem, N.C., assignor to Hanes Hosiery Mills Company, Winston-Salem, N.C., a corporation of North Carolina

Filed Aug. 24, 1959, Ser. No. 835,509
18 Claims. (Cl. 112—26)



1. In combination, a doffing attachment and a knitwear looping machine having a revolvable dial the periphery of which is equipped with a plurality of points, said attachment including a retractable stripper element adjacent the points for removing looped articles from the points as

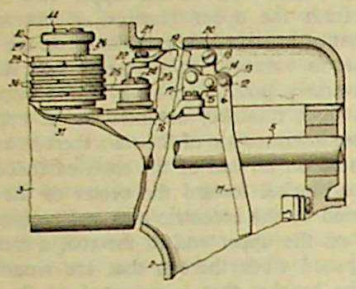
the dial revolves, cam means for retracting the stripper element, and means automatically operative to actuate the cam means to retract the stripper element at predetermined intervals to permit selected looped articles to remain on the points for subsequent removal therefrom.

2,999,471

ADJUSTABLE GUIDING CAM MECHANISM

Christiaan Joseph Marinus Benink and Herbert Wenz, Kaiserslautern, Pfalz, Germany, assignors to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany

Filed Sept. 30, 1957, Ser. No. 687,139
Claims priority, application Germany Oct. 9, 1956
5 Claims. (Cl. 112—158)



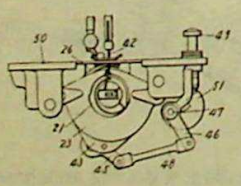
1. A guiding cam mechanism for zig-zag sewing machines of the type having a laterally deflectable needle bar and a material feed dog adapted to be guided by said cam mechanism, said mechanism including needle bar cam follower means operatively connected to and adapted to transmit lateral deflection impulses to said needle bar and feed dog cam follower means including a single follower member operatively connected to and movable about a pivot in a single plane and adapted to transmit stitch length control impulses to said feed dog, said cam mechanism comprising a cam shaft, a first group of rotatable cam disks mounted on said cam shaft for engagement by said feed dog cam follower means and a second group of rotatable cam disks for engagement by said needle bar cam follower means mounted on said shaft coaxially with said first group, said first group being mounted around said shaft and being axially and angularly adjustable relative to said second group and relative to said feed dog cam follower means, and setting means including a manipulating member mounted coaxially with said first group and operative to move said first group, thereby providing for optional phase displacement between said first group and said second group of disks and for axially moving said first group to associate different cams of said first group with said follower member.

2,999,472

CHAIN STITCH APPARATUS IN CONVENTIONAL LOCK STITCH SEWING MACHINES

Hideo Yamano, Minami-Hinokicho, Sakai City, Japan, assignor to Kabushiki Kaisha Tohoku Kosakusho, Sakai City, Japan

Filed Oct. 5, 1959, Ser. No. 844,449
Claims priority, application Japan Oct. 6, 1958
1 Claim. (Cl. 112—168)



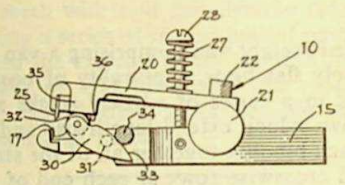
In a lock stitch sewing machine having a shuttle and a drive shaft on which said shuttle is mounted, the combination of a raceway around said shuttle, an oscillatory member slidably mounted in said raceway, said oscillatory member having an elliptical needle aperture therein and a narrow thread opening extending from said needle aperture through one end of the oscillatory member, a projection on each side of said oscillatory member opposite said needle aperture for holding a thread, a pin adjacent the other end of said oscillatory member, a pivotally mounted lever having one end engaging said pin, a push piece on said shaft engageable with the other end of said lever for moving said lever so as to move said oscillatory member toward the said other end of said oscillatory member, spring means engaging the other end of said oscillatory member urging said oscillatory member in a direction opposite to the direction in which it is urged by said lever, a blocking member pivotally mounted for movement into and out of engagement with said lever for blocking the movement of said lever, spring loaded link means connected to said blocking member urging it into the blocking position, and a lever member connected to said link means for moving said link means against the spring loading thereof to move the blocking member out of the blocking position.

2,999,473

AUTOMATIC THREAD CUTTING ATTACHMENT FOR SEWING MACHINES

John J. Wanner, 217 S. Washington St., Winchester, Va.

Filed June 18, 1959, Ser. No. 821,272
2 Claims. (Cl. 112—252)



1. In a sewing machine comprising in combination, needle carrier means adapted for limited oscillatory movement, work feeding means, means for driving the needle carrier means and said feeding means, and automatic thread cutting means including a pair of members pivotally connected together, and each having a free end, complementary cutting blades detachably secured to the free end of each of said members, means biasing said cutting blades together into cutting relation, a floating member pivotally supported by one of said pair of members with a portion in engagement with the other member of said pair, and a fourth member connected to the needle carrier means and in engagement with another portion of said floating member at a location spaced from the point of pivotal support thereof for causing said cutting blades to move out of cutting relation in synchronism with feeding movements of the work feeding means, and means carried by one of said members for preventing cutting action of said blades when a work piece is therebetween.

2,999,474

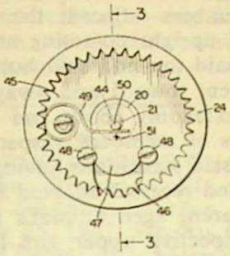
CENTRIFUGAL GATE VALVE FOR SEWING MACHINES

Walter J. Mendles, Trumbull, Conn., assignor to The Singer Manufacturing Company, Elizabeth, NJ., a corporation of New Jersey

Filed Feb. 14, 1958, Ser. No. 715,280
3 Claims. (Cl. 112—256)

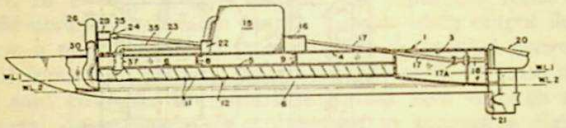
1. In a sewing machine, a shaft rotatably journaled therein, said shaft formed with a lubricant conducting bore, bearing means associated with said shaft, a lubricant conducting port leading from said shaft bore to said bearing means; means for directing lubricant into said shaft bore, and a sewing speed responsive centrifugally oper-

able valve means associated with said shaft bore for opening said shaft bore between said lubricant directing means



and said lubricant conducting port upon attainment of a predetermined speed of rotation of said shaft.

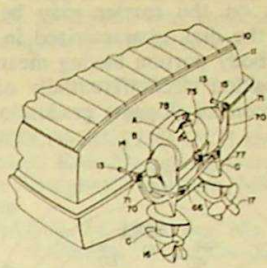
2,999,475
BOAT HULL CONSTRUCTION
Walter Conrad Kautz, Jr., 3635 SE. 69th Ave., Portland 6, Oreg.
Filed Apr. 8, 1960, Ser. No. 21,050
1 Claim. (Cl. 114—67)



A watercraft comprising a hull, an engine carried by the hull, propeller means driven by said engine, said hull having a buoyant bow section and a spaced apart buoyant stern section, side members enclosing and interconnecting said bow and stern sections to provide a downwardly opening air chamber between said sections and forwardly of the rearward end of said bow section and rearwardly of the forward end of said stern section, a main top deck and a downwardly spaced subjacent deck interconnecting said sections and said side members, a honey-comb structure comprising downwardly opening rearwardly inclined cells depending from said subjacent deck extending full length and width thereof and terminating on a plane above the bottom edges of said side members and thereby dividing said chamber into an upper section and a lower section, a source of air pressure carried by the hull and driven by said engine, means for directing air pressure from said source to the interior of said lower section at the forward end thereof whereby when the hull is in forward motion it will ride on air stratum within said lower section and whereby when at rest upon the water the air trapped within said downwardly opening cells will provide normal flotation and fore and aft and transverse stability for the watercraft.

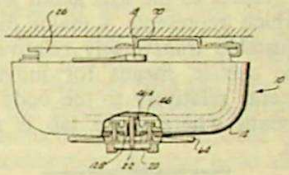
2,999,476
OUTBOARD MARINE DRIVE FOR INBOARD ENGINE
George Verne Johnson, 5510 SW. Buddington, Portland, Oreg.
Filed Sept. 26, 1958, Ser. No. 763,609
1 Claim. (Cl. 115—35)

An outboard drive on the transom of a boat comprising a stationary housing mounted on the outside of said transom, a pair of end housings mounted on opposite sides of said stationary housing for individual pivotal movement about a transverse horizontal axis, a pair of vertical propeller drive shaft housings mounted for rotation about their respective axes on said end housings, steering arms on said vertical housings, steering connections on said steering arms located on said transverse axis, a pair of hydraulic lift units connected between said stationary housing and said end housings, respectively, a steering lever pivotally mounted inside of said transom,



links connecting said steering lever with said steering connections on said steering arms, and steering means connected with said steering lever.

2,999,477
FIRE ALARM
Verneur E. Pratt, 2000 Skyline Drive, Fullerton, Calif., and Edmund C. Pratt, 369½ West Road, La Habra, Calif.
Filed June 9, 1959, Ser. No. 819,163
7 Claims. (Cl. 116—106)

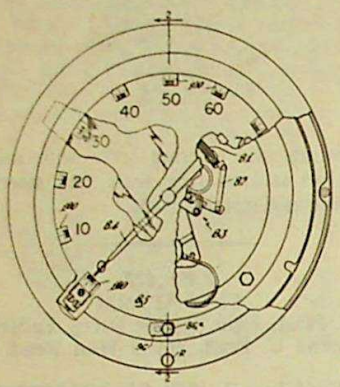


1. An alarm comprising a bell having a sounding pin formed integral therewith, a sealed sub-assembly substantially housed within said bell comprising a cup-shaped member and a cover member enclosing the latter, a storage drum rotatably mounted in said sub-assembly for storing a spring, a constant tension spring normally stored on said storage drum and adapted to return to same when unwound therefrom, a drive drum rotatably mounted in said sub-assembly and having one end of the spring connected thereto for winding the spring onto same from said storage drum, a hammer having movable sounding heads at opposite ends thereof and rotatably mounted in said sub-assembly adjacent the sounding pin to allow a sounding pin to extend outwardly therefrom for striking the pin, step-up transmission gearing mounted in said sub-assembly in a driven relationship with said drive drum to be responsive to the rotation of same provided by the unwinding of the spring from said drive drum and having a driving connection with the hammer for continuously driving same at a constant rate throughout substantially the whole length of the spring, means mounted externally of said sub-assembly and connected to the drive drum for winding the spring thereon, and control means extending outwardly of said sub-assembly and said bell engageable and disengageable with the gearing to selectively control the operation of the gearing, and latch means mounted on the bell operable to lock and unlock the control means into and out of engagement with the gearing to selectively control the sounding of the bell.

2,999,478
TEST INSTRUMENT OF THE DIAL TYPE
Robert C. Du Bois, Fairfield, Conn., assignor to Manning, Maxwell & Moore, Incorporated, Stratford, Conn., a corporation of New Jersey
Filed Feb. 20, 1959, Ser. No. 794,636
17 Claims. (Cl. 116—129)

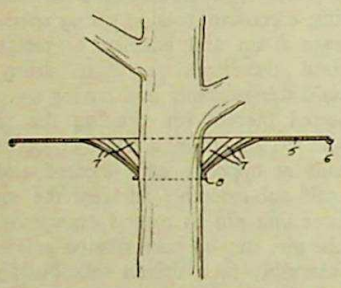
1. An instrument of that kind which includes a dial, a pointer and means for moving the pointer relatively to

the dial, a graduation carrier and means whereby said carrier may be releasably fixed to the dial whereby a graduation mark on the carrier may be located at a selected part of the dial, characterized in that said carrier comprises a body portion having means for securing it in adjusted position circumferentially of the dial and a tab having thereon an elongate graduation mark which



is radial with respect to the axis about which the pointer swings and which represents a major dial division, the tab being adjustable transversely relatively to the body portion of the carrier, means for moving the tab by minute increments relatively to the body portion of the carrier and means whereby the tab is retained in adjusted position.

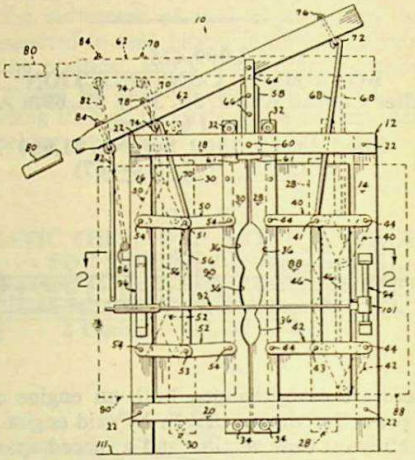
2,999,479
ANIMAL RESTRAINING TREE GUARD
Gault Carder, Box 41, Gassaway, W. Va.
Filed Feb. 17, 1960, Ser. No. 9,358
1 Claim. (Cl. 119—1)



An animal restraining tree guard comprising a disc-like body having a substantially circulen periphery, said body having radial slits extending inwardly from points spaced inwardly from said periphery, said slits forming fingers which terminate at a central portion of said body, the terminal ends of said fingers being curved out of plane of said body, one of said slits extending through the periphery of said body, and releasable interlocking means on said body on opposite sides of said slit which extends through the periphery of said body, whereby said guard may be opened to pass about the trunk of a tree and then by bending the fingers as they engage the tree trunk enable the guard to be locked about the said tree trunk.

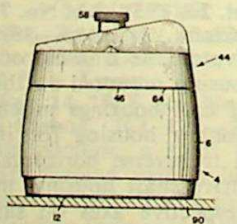
2,999,480
LIVESTOCK CHUTE GATE
Colonel Sparkman, Box 377, Elk City, Okla.
Filed July 17, 1959, Ser. No. 827,741
4 Claims. (Cl. 119—98)

1. A livestock chute gate, comprising: a frame, said frame including a pair of vertical side members joined at their upper ends in fixed spaced-apart relation by a pair of horizontal top members connected to the opposing sides of said side members and a pair of horizontal bottom members connected to the opposing sides of said side members adjacent the lower ends of the latter; a pair of upright co-acting stanchions freely received between said top and said bottom pairs of members for movement toward and away from each other, said stanchions extending above and below said top and said bottom pairs of members, respectively, the adjacent edge portions of said stanchions having a series of arcuate opposing graduated recesses adapted for engaging opposing sides of different aged animal's necks; rollers journaled by the respective upper and lower ends of said stanchions above and below said top and said bottom pairs of members, respectively; upper and lower co-acting pairs of pivotally connected links extending between



and pivotally connected to one side of each said side member and the respective adjacent said stanchion; a vertical bar interconnecting the respective said upper and lower pairs of links; a lever pivotally supported intermediate its ends by the medial portion of said pair of top members for vertical pivoting movement, one end portion of said lever being adapted to contact an adjacent upper and lateral surface of said frame to form a stanchion closed position overcenter locking stop for at least one pair of said links; and a pair of rod members extending between and pivotally connected at their opposing ends, respectively, with the respective central pivotal connection of said upper pairs of links and said lever and simultaneously pivoting the respective said upper and lower pairs of links in opposing directions from a stanchion open position to a stanchion closed and locked position when said lever is pivoted downwardly.

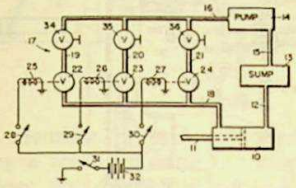
2,999,481
PENCIL POINTER
Walter Butler Lincoln, Riverside, N.J., assignor to C. Howard Hunt Pen Co., Camden, N.J., a corporation of New Jersey
Filed Oct. 28, 1959, Ser. No. 849,268
11 Claims. (Cl. 120—91)



1. A pencil pointer comprising a base, a hub supported on said base by a ball joint and having an outer abrasive

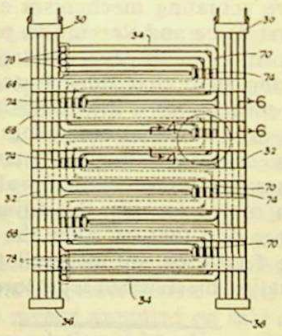
surface, stop means to limit the movement of said hub on said joint, a cap mounted for rotation above said support, a pencil guide in said cap having an axis intersecting said abrasive surface, and resilient means interposed between said cap and said hub to resist the downward tilting of the hub away from the pencil guide.

2,999,482
DIGITAL FLUID CONTROL SYSTEM
John L. Bower, Downey, Calif., assignor to North American Aviation, Inc.
Filed Apr. 15, 1957, Ser. No. 652,890
10 Claims. (Cl. 121—38)



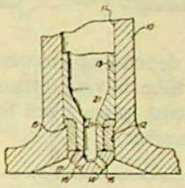
1. In a fluid control system, an input for receiving fluid under pressure, an output for providing output fluid flow, a plurality of conduits coupled in parallel between said input and output, means individual to at least two of said conduits for controlling fluid flow through the several ones thereof in proportion to successive digital orders, and means for selectively permitting flow through the several ones of said conduits.

2,999,483
FURNACE WALL AND SUPPORT CONSTRUCTION
Wilbur H. Armacost, Scarsdale, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 8, 1957, Ser. No. 695,324
8 Claims. (Cl. 122—510)



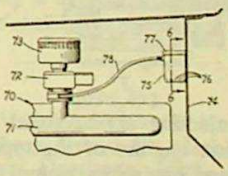
1. In combination, a once-through boiler including an upright furnace of polygonal transverse section, a plurality of tubes lining the inner surface of each corner of the furnace and extending vertically throughout the length of the furnace, said tubes forming part of the circuit of the boiler and being supported from above, a number of tubes bent in serpentine fashion and disposed in the plane of each of the furnace walls substantially filling the space between said corner tubes and forming the inner surface of the wall between said corner tubes with these serpentine tubes also forming a part of the circuit of the boiler, horizontal structural support members extending across each of the walls at vertically spaced locations throughout the length of the wall and in juxtaposition to the portions of the tubes remote from the furnace interior, said support members being carried by the vertically extending corner tubes at each end of each wall and with said serpentine tubes intermediate said corner tubes being carried by said support members while permitting said serpentine tubes to expand and contract as required by variations in temperature of the tubes.

2,999,484
PRECOMBUSTION CHAMBER
Johannes Lusznat, Koln-Ehrenfeld, Germany, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 24, 1960, Ser. No. 10,633
7 Claims. (Cl. 123—32)



1. A precombustion chamber construction for a cylinder head comprising a hollow precombustion chamber body adapted to be mounted within the cylinder head, a precombustion chamber head secured to the precombustion chamber body and also adapted to be mounted within the cylinder head, a plurality of ducts extending through said precombustion chamber head and communicating with the interior of the precombustion chamber body, and a high thermal conductivity jacket disposed between a portion of the precombustion chamber head and the cylinder head.

2,999,485
PROCESS FOR PRECONDITIONING AIR FOR USE IN THE OXIDATION OF HYDROCARBON FUELS
James H. Lundy, 2409 E. Belmont Ave., Herman G. Rempel, 4717 E. Nevada, and Ralph Slavich, 4363 N. Van Ness, all of Fresno, Calif.
Filed Mar. 28, 1960, Ser. No. 17,938
16 Claims. (Cl. 123—119)

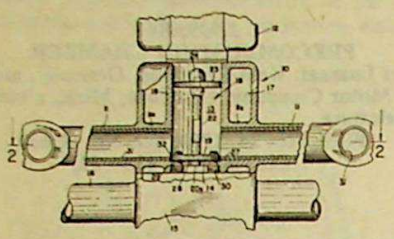


1. In the operation of an internal combustion engine having a combustion chamber, the steps of introducing a powdered cupric salt into the combustion chamber with hydrocarbon fuel and air of combustion, and oxidizing the fuel and the cupric salt in the combustion chamber whereby the latter forms copper oxide which acts as a catalyst in the oxidation of the fuel.

2,999,486
MEANS FOR INCREASING FUEL COMBUSTION EFFICIENCY IN INTERNAL COMBUSTION ENGINES
Vincent Guarnaschelli, Alton Ave., Greenlawn, N.Y.
Filed May 25, 1960, Ser. No. 31,601
6 Claims. (Cl. 123—122)

1. In an internal combustion engine which includes an intake manifold housing enclosing an upright cylindrical chamber open at the top upon which is mounted a carburetor to discharge fuel mixture into the chamber and below which is mounted an exhaust manifold housing to heat the chamber, said chamber having a floor, provided with an axial passage therethrough, the

improvement consisting of a high heat conducting upright metallic tube mounted in said chamber and registering in said passage, a perforated disc mounted on the tube between the upper and lower ends of the tube,



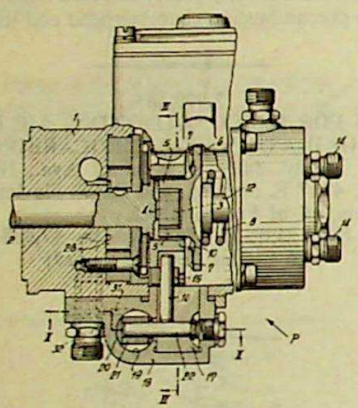
said disc having a depending circumferential flange, the upper end of the tube having means thereon obstructing passage of exhaust gases from the exhaust manifold housing into the chamber.

2,999,487

FUEL INJECTION PUMP FOR MULTICYLINDER INTERNAL COMBUSTION ENGINES

Reinhardt Stier, Sindelfingen, Kreis Boblingen, Wurttemberg, and Eberhard Hofmann, Stuttgart-Zuffenhausen, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Nov. 17, 1959, Ser. No. 853,506
Claims priority, application Germany Nov. 21, 1958
4 Claims. (Cl. 123—139)



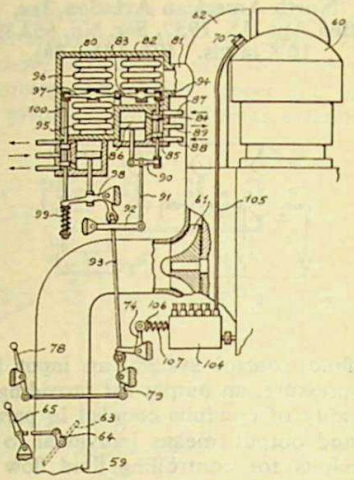
1. In a fuel injecting arrangement for multicylinder internal combustion engines of the type comprising fuel supply pump means having an output side, rotary drive shaft means for operating said pump means in such a way that the pressure at said output side increases in response to increasing rotary speed of said shaft means, piston means for injecting measured quantities of fuel into the cylinders of the engine, and a cam drive for said piston means including a component angularly adjustable about a fixed axis for thereby regulating the timing of injection strokes performed by said piston means, the improvement which consists in the provision of means for angularly adjusting said component in response to variations in the rotary speed of said shaft means, said adjusting means comprising, in combination, a rotary shaft member coupled with said component for angularly displacing the same; cylinder means connected with the output side of said pump means; plunger means received in said cylinder means for movement in a first direction in response to increasing pressure at said output side; resilient means for permanently biasing said plunger means in a second direction counter to said first direction; and means for articulately connecting said plunger means with said shaft member so that the shaft member is rotated in response to movements of said plunger means in either of said directions.

2,999,488

FUEL CONTROL WITH FEEDBACK AND FORCE MULTIPLICATION

Ferdinando Carlo Reggio, P.O. Box 692, Norwalk, Conn.

Original application Feb. 3, 1939, Ser. No. 254,355, now abandoned. Divided and application Ser. No. 496,296, July 27, 1943, now abandoned. Continued and application Ser. No. 591,511, June 7, 1956. Divided and this application Dec. 8, 1960, Ser. No. 74,519
11 Claims. (Cl. 123—140)



1. In a fuel control for an engine having an air intake system with a compressor therein, a fuel control member for controlling the rate of fuel supply to the engine, a servo motor for positioning said control member, servo motor control valve, a valve actuating mechanism, pressure responsive means connected with said air intake system downstream from the compressor for transmitting to the said valve actuating mechanism a first force substantially proportional to the compressor discharge pressure in the direction to increase the rate of engine fuel supply, and a feed-back spring connected with the fuel control member and adjusted thereby for applying to the same valve actuating mechanism a second force opposing said first force and varying in predetermined relation to the position of the fuel control member, the arrangement being such that during steady operation the said actuating mechanism is in equilibrium under said two forces acting against each other, but as soon as such equilibrium is disturbed the said actuating mechanism will move the servo motor control valve and set in motion the servo motor to vary the adjustment of the fuel control member and thereby alter the said second force set up by the feed-back spring until the equilibrium of the valve actuating mechanism is restored.

2,999,489

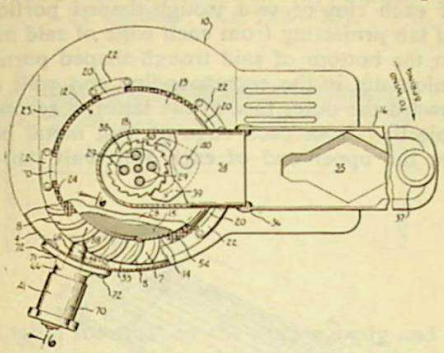
SPRING MOTOR ENGINE STARTER

Charles L. Coughlin, Herbert A. Gumtow, and Ib H. Svendsen, Milwaukee, and Hugh S. Brown, Wauwatosa, Wis., assignors to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware

Filed Mar. 30, 1960, Ser. No. 18,754
10 Claims. (Cl. 123—179)

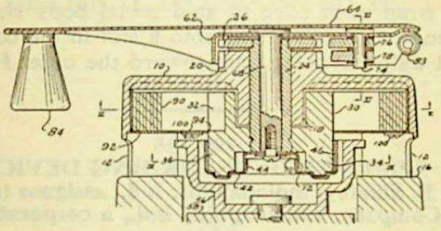
1. In a spring motor starter for rotating the crankshaft of an internal combustion engine of the type having a flywheel on its crankshaft which is provided with fan blades for forcing cooling air across the engine, means for preventing rotation of the crankshaft while the spring of the spring motor is being wound, said means comprising: a stop member; means slidably mounting the stop member on a fixed part of the engine adjacent to the flywheel, and guiding the stop member for linear motion substantially radially with respect to the flywheel between

an extended position engaged between two adjacent fan blades on the flywheel to prevent rotation of the flywheel, and a retracted position in which the stop member is clear of the flywheel; means to releasably and impositively



hold the stop member in said extended position, said means including a spring biasing the stop member to its extended position; and manually controllable means for retracting the stop member and holding it in its retracted position.

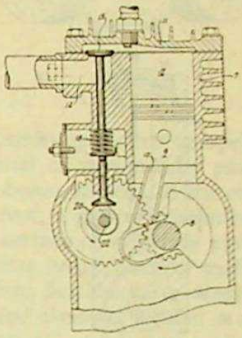
2,999,490
SPRING STARTER
Lyle J. Hamman, Eaton Rapids, Mich., assignor to Eaton Stamping Company, a corporation of Michigan
Filed Apr. 27, 1959, Ser. No. 809,165
15 Claims. (Cl. 123—179)



1. A starter for an internal combustion engine having a clutch element in driving relation to the engine crankshaft comprising a spring fixed at one end with respect to the engine, a drive member affixed to the other end of said spring, means affixed to said drive member to rotate said member and wind said spring, said means comprising a crank handle movable between a cranking position and a non-cranking position, releasable means maintaining said spring in wound condition, release actuating means affixed to said crank handle releasing said releasable means upon moving said handle to the non-cranking position and clutch means mounted on said drive member establishing driving relation with the engine clutch element upon release of said spring and rotation of said drive member thereby to crank the engine.

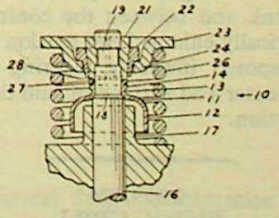
2,999,491
INTERNAL COMBUSTION ENGINE AND METHOD OF OPERATING THE SAME TO OBTAIN COMPRESSION REDUCTION DURING CRANKING
Joseph R. Harkness, Milwaukee, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware
Filed Sept. 15, 1960, Ser. No. 56,260
12 Claims. (Cl. 123—182)

1. The hereindescribed method of operating a four-stroke cycle internal combustion engine having a cylinder, a crankshaft, a piston in the cylinder operatively connected with the crankshaft and coacting with the cylinder to form a combustion chamber, and poppet intake and exhaust valves for the combustion chamber, the piston having the customary intake, compression, power and exhaust strokes, which method comprises: opening the intake poppet valve to admit combustible fuel mixture into the combustion chamber during the intake stroke, igniting the fuel mixture near the end of the compression stroke, and opening the exhaust poppet valve to enable the products of combustion to be expelled during the exhaust stroke—all in the conventional manner; and said method being characterized by automatically and in timed relation with rotation of the crankshaft, so controlling the opening and closing of one of said poppet valves that during the compression stroke of the piston, said valve is held between five and twenty-thousandths of an inch off its seat while



the piston moves from a point substantially one-eighth its total ascent from bottom dead-center to a point between one-half and three-quarters its total ascent, and is then gradually closed, with final closure occurring when the piston has reached a point in its compression stroke substantially three-fourths its total ascent from bottom dead-center, whereby said valve in addition to serving its conventional purpose, provides a precisely controlled orifice leading from the combustion chamber and having a flow capacity such that at running speeds the loss of compression resulting from the open orifice is insignificant and does not preclude acceptable engine performance, whereas during starting of the engine when piston travel is slow, compression is appreciably reduced so that cranking of the engine is easier.

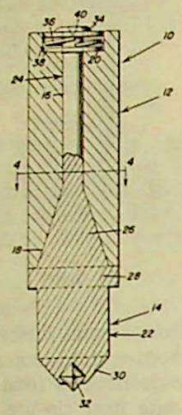
2,999,492
VALVE STEM SEAL
Denny D. Duesenberg, Grosse Ile, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,207
7 Claims. (Cl. 123—188)



2. An internal combustion engine valve gear comprising a poppet valve, an umbrella seal engaging the poppet valve stem and substantially restricted from moving axially along the stem in one direction, a member having elastomeric properties on said valve stem and contacting a portion of the umbrella seal, said poppet valve having an annular groove at one end, valve spring retaining means detachably mounted in the poppet valve stem groove, said valve spring retaining means being in contact with one of said umbrella seal and said elastomeric

member when said valve spring retaining means are detachably mounted in the poppet valve stem groove, said spring retaining means and said umbrella seal being so figured that the elastomeric member is compressed in sealing engagement with the poppet valve and the umbrella seal when the valve spring retaining means are detachably engaged in the poppet valve stem groove.

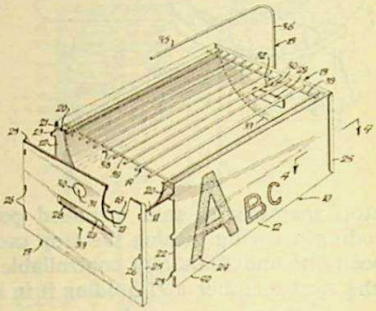
2,999,493
DIAMOND DRESSING TOOL
Otis E. Blair, West Orange, N.J., assignor to The Staset Company, Inc., West Orange, N.J., a corporation of New Jersey
Filed May 26, 1960, Ser. No. 31,999
4 Claims. (Cl. 125—39)



4. A diamond tool comprising a sleeve adapted to be rigidly secured within a holder, an axial bore formed through said sleeve having an inwardly tapered counterbore at one end, an elongated cutting tool having a diametrically enlarged head end portion and a cylindrical shank end portion at the other end, a conical bearing intermediate portion tapering toward said shank end portion and disposed between the latter and said head end portion, said shank portion rotatably received in said axial bore with said conical bearing portion seated in said counterbore, a centrally disposed cutting tool carried at the end of said head portion remote from said shank portion, and means interconnected between said sleeve and cutting tool resiliently urging said intermediate portion into tight frictional engagement with said counterbore, a counterbore formed in said end of said axial bore remote from said tapered counterbore, said spring means disposed in said second mentioned counterbore, said spring means including a compression spring disposed about said shank and between the confronting surfaces of said diametrically enlarged end portion and said sleeve, a centrally disposed inwardly tapering shallow recess formed in the outer end surface of said diametrically enlarged end portion.

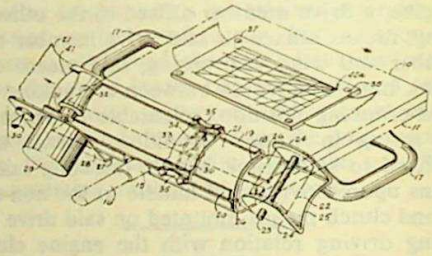
2,999,494
PICNIC GRILL
Robert Leland Richardson, Eden, N.Y., assignor to Eclipse Metal Mfg. Corp., Eden, N.Y., a corporation of New York
Filed Oct. 27, 1958, Ser. No. 769,655
3 Claims. (Cl. 126—25)

2. A light gage sheet metal fire pot for a picnic grill capable of being set up in the order of one minute and restored to a collapsed condition a large number of times, comprising a pair of generally parallel one piece sheet metal vertical end walls having bottoms adapted for steady support on the ground and a sheet metal body sheet having generally parallel edges engaging the opposing faces of said end walls, said metal body sheet having a generally semicylindrical trough-shaped central portion and side walls each forming an integral downward continuation of each rim of said trough-shaped portion, a first integral tab projecting from each edge of said metal body sheet at the bottom of said trough-shaped portion into a companion slot in the corresponding end wall and being bent toward the outer face of the latter, a second integral tab projecting from each edge of said metal body sheet adjacent the upper end of each side wall into a slot in



the corresponding end wall and being bent toward the outer face of the latter, said first and second integral tabs forming the sole support for said trough-shaped portion, and said companion slots containing said first tabs being at such high elevation as to hold said trough-shaped portion under stress with its bottom distorted upwardly from true semicylindrical shape, and a third integral tab projecting from each edge of said metal body sheet at the lower end of each side wall into a slot in the corresponding end wall and being bent toward the outer face of the latter.

2,999,495
SPIROMETER RECORDING DEVICE
Robert E. Shipley, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
Filed Feb. 25, 1958, Ser. No. 717,471
3 Claims. (Cl. 128—2.08)

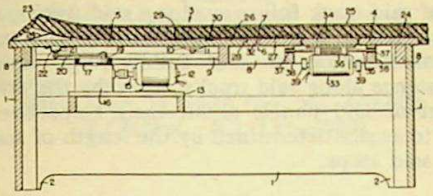


1. A spirometer of the portable type adapted to be held by a patient and comprising: a bellows having a pair of hinged-together end plates, an inlet duct connected to said bellows adjacent said hinge, a frame connected to one of said plates, means for mounting a sheet of paper on said frame on an arcuate surface having its center coaxial with the axis of said hinge and adapted to guide said paper parallel to the axis of said hinge, a marking means rigidly attached to said other plate and movable thereby in a direction transverse to the direction of movement of said paper for marking a line on said paper, and means for moving said paper at a uniform rate as said bellows is inflated to thereby produce a graph for determining the expiratory flow rate and vital capacity of a patient while producing a single exhalation through said duct into said bellows.

2,999,496
TRACTION-PERCUSSION TABLE

Edward Le Roy Parson, Watertown, Wis.
(144 Park Ave., Prescott, Ariz.)

Filed Sept. 30, 1958, Ser. No. 764,375
11 Claims. (Cl. 128—33)

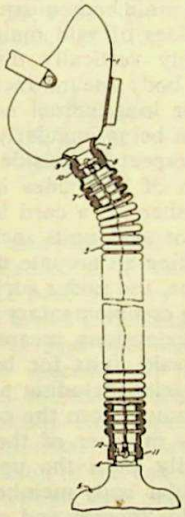


1. In a table for treating the human body and having a fixed top portion and a movable top portion, a horizontally and longitudinally stretchable support pad secured above said portions, means to reciprocate said movable portion relative to said fixed portion to stretch said support pad to produce traction treatment of the human body, and means forming part of said fixed portion to apply vertical percussive forces through said pad to the said body, said pad providing at least a partial restrainer for said last-named means.

2,999,497
BREATHING APPARATUS HOSE RESTRAINER

William C. Hamilton and Harry W. Austin, Pittsburgh, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 11, 1957, Ser. No. 671,236
5 Claims. (Cl. 128—142)

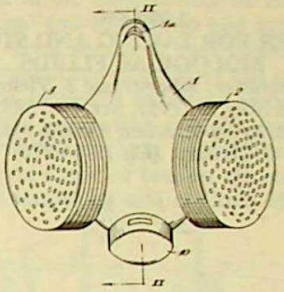


1. In breathing apparatus, the combination with an axially elastic hose having its opposite ends secured to a mask and oxygen supply connector, of a stretch controller comprising a slack flexible cord extending through the hose, and means anchoring the ends of the cord at the mask and connector, said cord between said means being only enough longer than the length of the hose between the mask and connector to permit unrestrained normal stretching of the hose, and the cord being made from undrawn permanently-stretchable material, whereby when excessive tension is applied to the hose said cord will be elongated permanently a limited amount as the hose stretches a corresponding abnormal amount, the elongating cord absorbing energy and thereby serving as a shock absorber.

2,999,498
RESPIRATOR

James N. Matheson, Reading, Pa., assignor, by mesne assignments, to The Electric Storage Battery Company, Philadelphia, Pa., a corporation of New Jersey

Filed May 7, 1957, Ser. No. 657,671
5 Claims. (Cl. 128—146)

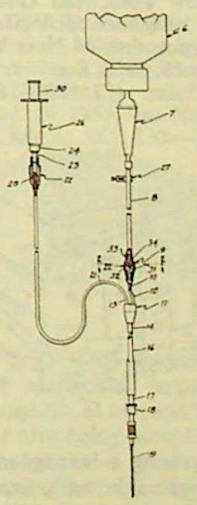


1. In an industrial respirator comprising a face piece of flexible material of substantially pear shaped outline, a pair of filter boxes secured to the exterior of the enlarged sides thereof, a pair of inhalation valves mounted on the interior surface of said face piece in communication with said filter boxes, each of said inhalation valves comprising a thin, flexible valve diaphragm and a pair of suspending stud elements located in close, side by side relationship above the diaphragm and integrally secured to the inner surface of the face piece, there being no other valve fastening elements, whereby substantial flexing of said diaphragm and minimum breathing resistance are provided.

2,999,499
FLEXIBLE CHECK VALVE

Richard H. Willet, Oakland, Calif., assignor to Cutter Laboratories, Inc., a corporation of California

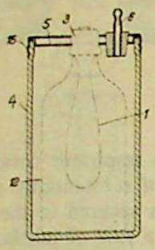
Filed July 11, 1958, Ser. No. 748,035
2 Claims. (Cl. 128—214)



1. In a parenteral fluid administration set, including a fluid container having an outlet, a drip meter connected to said outlet, a first check valve, a first fluid conduit connected at one end of said drip meter and at its other end to said first check valve, a Y-connection having a first and second inlet conduit and a common third outlet conduit, conduit means connecting the first check valve and the first inlet conduit, the improvement consisting in a second check valve connected to the second inlet conduit and having a flexible valve body and a movable valve member therein normally maintained in closed position and movable under positive fluid force applica-

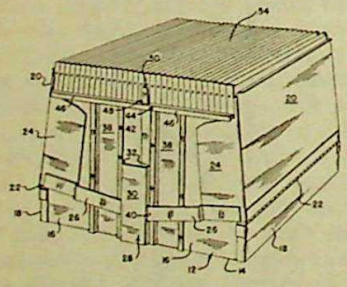
tion to permit fluid flow therethrough in a first direction into the second inlet conduit and thence to the third outlet conduit, said flexible valve body being manipulatable to unseat the valve member to permit fluid flow from the second inlet conduit in a direction opposite to said one direction.

2,999,500
CONTAINER FOR TAKING AND STORING OF BIOLOGICAL FLUIDS
Friedrich Schürer, Biberstrasse 3, Vienna, Austria
Filed May 18, 1955, Ser. No. 509,369
Claims priority, application Austria May 22, 1954
8 Claims. (Cl. 128—276)



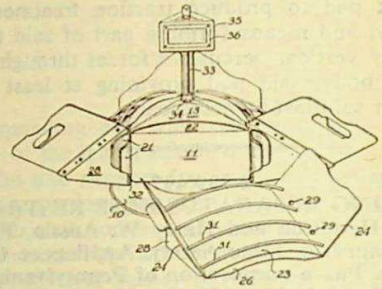
1. Device for taking and storing biological fluids comprising a thin, flexible stretchable bag, having a substantially rigid tubular neck portion, a protective casing of flexible, but non-stretchable material positioned surrounding said bag, said bag and said protective casing being pulled over said substantially rigid neck portion and sealed thereto by tappable closure means, positioned over said neck portion, said casing being positioned surrounding said bag, so that between said bag and said casing a hollow space is formed which is substantially completely taken up when said bag is completely filled.

2,999,501
FILING CABINET
Herbert Weston, New York, and Gilbert L. Anderson, Levittown, N.Y., assignors to VISIrecord, Inc., New York, N.Y., a corporation of New York
Filed June 16, 1958, Ser. No. 742,423
1 Claim. (Cl. 129—16)



A filing unit comprising a bottom member, a pair of spaced, opposed upright side walls fixed to said bottom member, spaced and opposed upright front and back walls disposed substantially perpendicular to the plane of said side walls in fixed relation thereto, front and back panels mounted along their lowermost edges for pivotal motion about axes parallel to the plane of said bottom member and said front and back walls respectively, each of said panels having a restraining arm rigidly fixed thereto, a free end of said arm extending substantially parallel to one of said side walls, a pair of spaced vertically disposed tracks mounted on said one side wall, a track follower having means along opposite side thereof for slidably engaging said tracks and for confining said follower to motion along said tracks, said follower also having wall means thereon extending substantially perpendicular to the plane of said one side wall, said wall means having slots therein for slidably receiving portions of said restraining arms adjacent the free ends thereof, the dimensions of said slots being such that the motion of the restraining arm therein is limited to motion in a direction transverse of the direction of motion of said track follower along said tracks, and stop members fixed at spaced locations along said tracks for limiting the motion of said followers to a predetermined distance along said tracks, whereby the pivotal displacement of said panels about their respective axes is confined to angles determined by the length of said tracks between said stops.

2,999,502
ROTARY FILE
Maurice W. Joyce, 142 Boardman Road, Youngstown 12, Ohio
Filed July 18, 1958, Ser. No. 749,434
1 Claim. (Cl. 129—16)



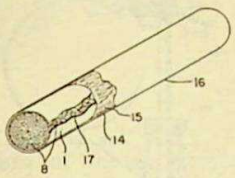
A rotary card file comprising a base means, a substantially vertically extending shaft supported by said base means, a multi-sided main body means rotatably supported by said shaft, the sides of said main body means being normally substantially vertically disposed, each of the sides of said main body means including an upper extension at the upper longitudinal edge thereof, each of said upper extensions being angularly disposed outwardly and upwardly with respect to the side and having an arcuate outer edge, each of said sides including an end extension at each end thereof, a card holding unit for each of said sides, each of said units including a rectangular body member including an arcuate upper surface and an arcuate under surface, the under surfaces of each of said body members being complementary to the arcuate upper edges of said upper extensions, means adjacent said upper surface of each of said units for holding cards on the units, each of said units including a pair of end panels, said end panels extending from the opposite end edges of the rectangular body member of the associated unit upwardly and outwardly from the upper surface thereof, each of said rectangular body members including a flange at the upper back edge thereof and extending at an angle with respect to said upper surface, each of said last-mentioned flanges having an arcuate outer edge of similar configuration to the under surface of the associated body member, said flange on each of said units engaging and overlying one of said upper extensions to support each unit adjacent one of said sides, each of said units being provided with a pair of substantially triangular legs depending from the under surface of the associated body member at the opposite end edges of the body member, each of said legs including a normally vertically disposed edge engaging the adjacent side of the main body means and being at an angle to the end edges of the associated rectangular body member whereby the upper surfaces of the units are disposed at an acute angle to the adjacent sides of the main body means, each of said legs also including a bottom edge for supporting the units on a sup-

porting surface, the pair of legs on each unit being adapted to engage the end extensions formed on the sides of said main body means for retaining each unit in operative position.

2,999,503
FILTER

Milton O. Schur, Asheville, and James C. Rickards, Brevard, N.C., assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Dec. 23, 1953, Ser. No. 400,072
2 Claims. (Cl. 131—208)



1. A filter for smoking devices comprising a wrapper and enclosed within the wrapper a filling of crumpled and gathered paper sheet, said sheet initially weighing about 7 to 25 grams per square meter and said filling being substantially uniformly distributed within the said wrapper at a density of about 0.1 to 0.3 gram per cubic centimeter and having a multitude of generally longitudinal tortuous passageways therethrough, said paper having been substantially softened prior to enclosure within the said wrapper by random mechanical working thereof until the vast majority of its fibers have been partially pulled apart at random locations therein.

2,999,504
HAIR CURLER

Monica Russell, 220 Mansion Road, Wallingford, Conn.

Filed Aug. 20, 1958, Ser. No. 756,209
3 Claims. (Cl. 132—41)

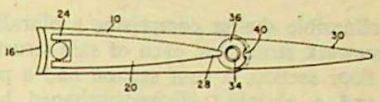
1. An adjustable one-piece hair curler for varying size curls which is adapted to lie flat on the head, comprising a thin disc-like base member with a central opening therethrough and a slot extending from the periphery of the base member to said opening, said base member having a plurality of spaced, thin plastic elongated resilient fingers secured thereto adjacent the periphery of said opening and about said opening and extending axially of said base member, said spaced fingers thereby forming a spindle portion of the hair curler around which hair strands may be wound, said fingers being sufficiently resilient to permit them to be bent outwardly over hair wound around them adjacent the base member, a hair fastening tab member for each finger which is integral with the outer periphery of the base member and is located radially otuward from its matching finger, a plurality of openings longitudinally spaced in said fingers each of which is adapted to coact with said tabs to provide an adjustable fastening for the resilient fingers.

2,999,505
COMBINATION NAIL CLIPPER AND TWEEZERS

Martin E. Herstedt, 208 15th Ave., East Moline, Ill.

Filed Nov. 23, 1959, Ser. No. 854,825
1 Claim. (Cl. 132—73.5)

A combination nail clipper and tweezers, comprising: a pair of complementary members fixedly connected together at one pair of ends and normally biased apart at their opposite pair of ends, said opposite ends having cooperative jaws; means at said jaw ends for effecting closing and opening of the jaws and including a lever pivoted to the members at said jaw ends on an axis normal to the members for optional swinging about said axis to a folded position in which said lever lies along and in closely spaced relation to the outer surface of one member and having a terminal end adjacent to said connected ends of the members; pivot means at said connected ends and beyond said terminal end of the lever and including a shaft turnable in said connected ends on a second axis parallel to the lever axis and having opposite end portions projecting outwardly respectively beyond the outer surfaces of said members; a pair of tweezer elements fixedly connected to and carried by said opposite end portions, re-

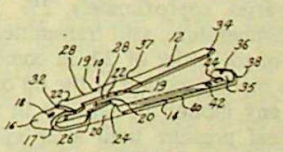


spectively, at the outer surfaces of said members for selective swinging about said pivot means axis between an operating position extending away from the members to a storage position in which said elements lie respectively closely along the outer surfaces of said members with one element lying between said one member and the folded lever, said elements being of such length that the free end of said one element lies short of the lever pivot in its storage position, said elements in their operative position being biased apart to enable manual squeezing thereof to bring their free ends toegther; and head means fixed on the one end portion of the shaft at the same surface as the lever and said head means and the terminal end of the lever having cooperating parts operative in the storage position of said elements and the folded position of the lever to releasably retain said respective positions of said elements and lever.

2,999,506
NAIL CLIPPER

John W. Hunt, Pontiac, Mich., assignor to Pontiac Specialties Manufacturing Corporation, Pontiac, Mich., a corporation of Michigan

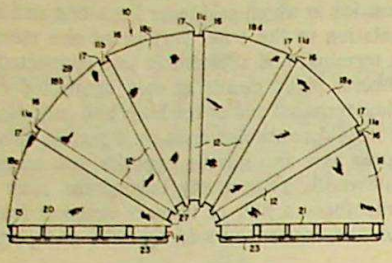
Filed Dec. 20, 1957, Ser. No. 704,085
8 Claims. (Cl. 132—75.5)



1. A manicure implement having a continuous one-piece construction comprising upper and lower arms hingedly secured together at one end by means of a spring portion, said lower arm being provided along at least one longitudinal side edge at a point adjacent the spring portion with an upwardly projecting shearing blade, the upper marginal edge of said blade being tapered downwardly towards said spring portion and forming a shearing edge, said upper arm being provided with a recess extending inwardly from at least one longitudinal side edge with the lower margin of the longitudinal wall forming a shearing edge, the distal portion of said upper arm being off-set upwardly from the remainder of the arm at a point adjacent to the spring side of said recess, said recess being adapted to register with and receive said shearing blade in overlapping fashion when said arms are pivoted towards each other to form a nail cutting jaw having a cutting action which proceeds from a point remote from said spring towards said spring.

2,999,507
COLLAPSIBLE SHELTER USING BELLOWS-LIKE SECTIONS

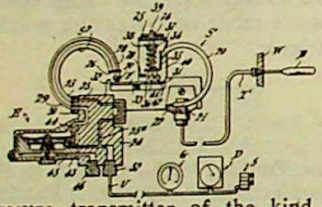
Henry P. Glass, 666 Lake Shore Drive, Chicago 11, Ill.
Filed May 27, 1960, Ser. No. 32,213
5 Claims. (Cl. 135—1)



1. A collapsible shelter comprising a plurality of four sided framework structures, each of said structures comprising a floor section, a roof section and a pair of end sections, and a plurality of wedge-shaped bellows-like sections one attached to each of the opposite perimetral edges of adjacently arranged structures to interconnect them into a unitary shelter, said wedge-shaped bellows-like sections having their narrow ends at the same side of the shelter and being extendable in an arcuate manner about a common point to expand the volume of said shelter.

2,999,508
SUPPRESSION DEVICE FOR NARROW SPANS

Robert C. Du Bois, Fairfield, Conn., assignor to Manning, Maxwell & Moore, Incorporated, Stratford, Conn., a corporation of New Jersey
Filed May 19, 1960, Ser. No. 30,288
13 Claims. (Cl. 137—85)

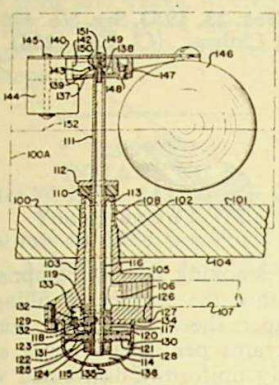


1. A pressure transmitter of the kind which comprises an input Bourdon tube of stainless steel and a feedback Bourdon tube of a material whose modulus of elasticity varies approximately 2% for each 100° F. change in temperature, said transmitter having a suppression ratio of the order of 20, in combination, means operative so to modify motion of the tip of the input tube as to prevent any motion of said tip in response to increase in internal pressure until after said pressure has reached a definite determined value, said motion-modifying means comprising a spring connected to the tip of the input tube and which is so normally stressed as to oppose motion of said tip in response to increase in pressure, said spring being of a material having a substantially constant modulus of elasticity with respect to temperature variations.

2,999,509
DEVICE FOR AUTOMATICALLY VALVING LIQUID

Paul M. Hankison and William Foster Walker, Bethel, Pa., assignors to Hankison Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 12, 1956, Ser. No. 627,899
9 Claims. (Cl. 137—195)

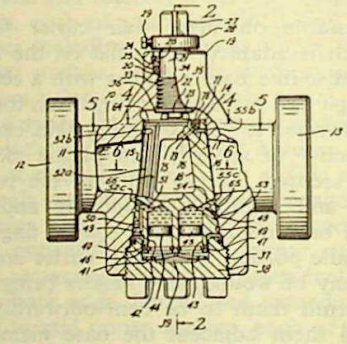
4. In a device for automatically valving liquid, in combination, a liquid holding member having a wall against which liquid collects under pressure, a main valve inside said base, a valve body having a seat for said main valve and extending through said wall for the periodical discharge of accumulated liquid, an outlet in said valve body for said discharge, a hollow valve stem extending through said wall and movable within said valve body, said main valve being mounted on said valve stem and movable therewith, a pilot valve on the liquid collecting side of said wall to open and close the top of said valve stem, a float adapted to engage said accumulated liquid, said float having an operative connection to said pilot valve, magnetic attraction means including a magnet operative between said hollow valve stem and said float to



keep said pilot valve closed unless and until the level of said liquid reaches a predetermined height exerting a force upon said float sufficient to lift said float and overcome said magnetic attraction means, a cylinder in the lower end of said valve body on the outside of said wall, an annular piston fixed to said valve stem and having a passage communicating through said valve stem with the end of said cylinder away from said main valve, said piston adapted to be moved in said cylinder by the pressure of gas flowing through said valve stem to said end when said pilot valve is opened to open said main valve.

2,999,510
AUTOMATIC LUBRICANT-SEALED PLUG VALVE

Alexander S. Volpin, 10200 W. Broadview Drive, Miami Beach 54, Fla.
Filed July 5, 1957, Ser. No. 670,320
8 Claims. (Cl. 137—246.12)

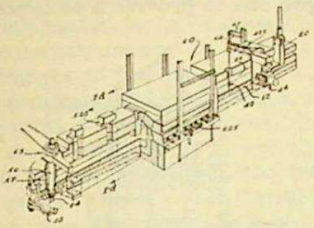


1. An automatic lubricant-sealed plug valve, comprising, a valve casing having a chamber therein and upstream and downstream flow ports communicating with said chamber, a one-piece ported plug member rotatable in the chamber, cooperating sealing surfaces on the plug member and in the chamber, a sealing groove system in said sealing surfaces about each flow port when the plug member is in the closed position, means including sealant reservoir means for supplying sealant to both said groove systems, and an additional groove system in said sealing surfaces for intercepting and conducting line pressure fluid leaking between said surfaces into said reservoir means to force sealant therefrom into said sealing groove systems.

2,999,511
CONTROLLING THE FLOW OF MOLTEN GLASS THROUGH A FURNACE FOREHEARTH

Clarence Chew, Sr., Godfrey, Ill., assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Nov. 9, 1956, Ser. No. 621,356
10 Claims. (Cl. 137—392)

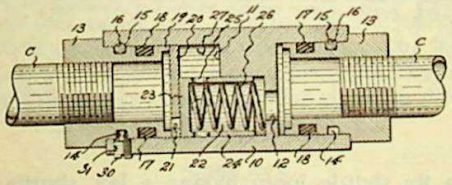


1. The combination of means providing a horizontally disposed channel through which a fluid flows from a higher to a lower level, a depth regulating block mounted over the channel and extending downward in the channel into the path of the flowing fluid, said block being approximately the width of the channel and controlling the depth of the fluid on the downstream side of the block, a piston motor comprising a cylinder, piston and piston rod, means providing operating connections between the piston rod and said block through which reciprocating movements of the piston rod impart substantially proportional vertical reciprocating movements to the said block, and means controlled by the depth of the fluid in the channel at a point downstream from said block for controlling the operation of the piston motor and causing the motor to move said block into positions to maintain the fluid flowing within the channel substantially at a predetermined level.

2,999,512
FLOW CONTROL VALVE

Eugene V. Barkow, 681 Morris Turnpike, Springfield, N.J.

Filed Oct. 31, 1960, Ser. No. 66,070
8 Claims. (Cl. 137—614.16)

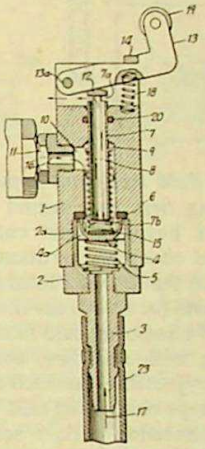


1. A flow control valve comprising: a cylindrical elongated valve body including tubular end portions separated by a cross wall having an eccentrically arranged axial through bore; a pair of axially aligned tubular coupling plugs each of which has fluid-tight swiveling engagement within one end portion of the valve body for fixed connection to the adjoining end of a fluid conduit through which fluid is caused to flow alternately in opposite directions, whereby the coupling plugs will remain stationary while the valve body may be manually rotated in its swiveled engagement with said plugs; a metering disk arranged at right angles to the axis of the valve body and being affixed to the inner end of one of the coupling plugs in fluid-tight connection therewith and having an orifice therein disposed eccentric to the axis of the valve body; a cup-shaped cylindrical poppet valve member including an imperforate end wall and a tubular side wall having radial perforations therein, said poppet valve member being mounted for limited reciprocation in the through bore of the cross wall of the valve body between a first terminal position contiguous to the metering disk and a second terminal position spaced therefrom and being arranged with its imperforate end wall facing the metering disk for even contact therewith in said first terminal position; and spring means biasing the poppet valve member into its said first terminal position, the cross wall of the valve body being spaced axially from the metering disk to provide a by-pass chamber in communication with the side wall perforations of the poppet valve member.

2,999,513
PNEUMATIC CONTROL VALVE

Hans Oetiker, 21 Oberdorfstrasse, Horgen, Switzerland

Filed Mar. 31, 1959, Ser. No. 803,217
Claims priority, application Switzerland Mar. 31, 1958
1 Claim. (Cl. 137—620)



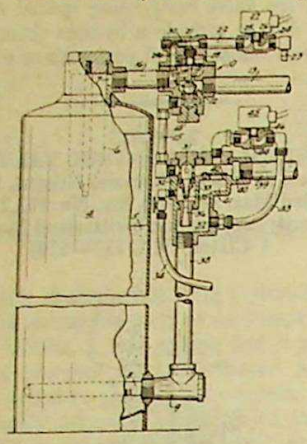
A quick-acting pneumatic valve comprising an oblong housing block, a bore extending longitudinally through said housing block, said bore having a small diameter portion at one end of said housing block, a large diameter portion at the opposite end of said housing block, and an intermediate diameter portion between said small diameter portion and said large diameter portion, an interior annular shoulder formed between said large diameter portion and said intermediate diameter portion for forming a valve seat, a cup-shaped check valve placed in said large diameter portion coaxially thereof and having a rim adapted to abut said shoulder, a first spring in said large diameter portion for pressing said check valve against said shoulder, said cup-shaped check valve having a cavity whose bottom forms a second valve seat, a tubular member coaxially movable in the small diameter portion and in the intermediate diameter portion of said bore and having an end extending outside of said housing block, said tubular member having a second end extending into said cavity and adapted to abut said second valve seat, a second spring interposed between said tubular member and said check valve and extending into the cavity of the latter, for urging said tubular member away from said check valve, a valve outlet in said housing block communicating with said intermediate diameter portion for conducting compressed air flowing through said check valve and through said intermediate diameter portion to said outlet upon pressing said check valve away from said first seat by means of said tubular member against the action of said first spring, and for conducting air in the opposite direction to the flow of the compressed air through said outlet, through said intermediate diameter portion and through said tubular member to the outside upon allowing removal of said tubular member from said second seat by said second spring.

2,999,514

CONTROLS FOR FLUID TREATMENT APPARATUS

Benjamin H. Kryzer, St. Paul, Minn., assignor, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed June 25, 1958, Ser. No. 744,577
13 Claims. (Cl. 137—624.18)



1. A control for fluid treatment apparatus comprising casing means having first and second tank connecting ports, a main valve having a first chamber, a second chamber and a third chamber; partitions separating said second chamber from the first and third chambers respectively and having ports for flow from the second chamber to the first and third chambers; said first tank connecting port communicating with said first chamber; a supply pipe for fluid under pressure connected to said second chamber; a first passage connecting said third chamber to said second tank connecting port; a service outlet port communicating with said first passage; closure means movable to selectively close the ports in said partitions, said closure means being movable to a first position closing the port in the partition between the third and second chambers and opening the port in the partition between the first and second chambers, and said closure means being movable to a second position opening the port in the partition between the second and third chambers and closing the port in the partition between the first and second chambers, a waste outlet port communicating with said first tank connecting port; a waste conduit vented to atmospheric pressure and connected to said waste outlet port; a second valve which is operative independently of said closure means controlling flow from said waste outlet port to said waste conduit; an aspirator interposed in said first passage to direct fluid to said second tank connecting port; means for conducting a regenerating fluid to said aspirator; a second passage having ends connected to said first passage near the inlet and outlet sides respectively of said aspirator and disposed to by-pass said aspirator; a third valve which is operable independently of said second valve, interposed in said second passage to control flow through said passage; fluid pressure responsive means operatively connected to said closure means; one side of said fluid pressure responsive means being subject to the pressure in said first tank connecting port and the other side being subject to the pressure in said waste conduit; and automatic timing means operatively connected to said second and third valves for activating them successively to open positions and then to closed positions at predetermined time intervals.

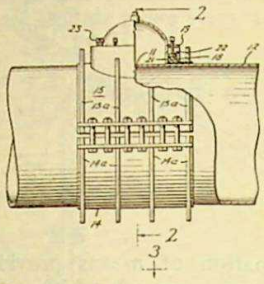
2,999,515

PIPE LINE LEAK CLAMP

John J. Watson, P.O. Box 1149, Jacksonville, Tex.

Filed Dec. 20, 1957, Ser. No. 704,062
2 Claims. (Cl. 138—99)

1. A pipe repair device comprising, a longitudinally split sleeve adapted to snugly embrace a pipe and reinforce the wall of the pipe, means for securing the sections of the sleeve together with each section in firm abutment with a pipe therebetween, a leak-chamber open at one end carried by the sleeve, said chamber being closed except at said one end to confine fluids when said one end of the chamber is sealed to a pipe over a leak, a continuous wall carried by the chamber and spacedly surrounding the wall thereof at its open end to provide a seal-receiving channel



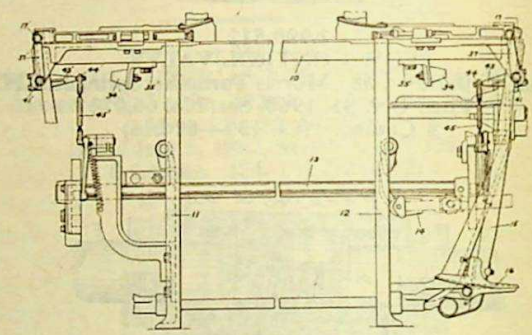
with the open end of the wall terminating approximately in the cylindrical surface constituted by the inner surface of the sleeve, seal means in said channel, and compression means accessible from the exterior of the device for urging the seal means into firm engagement with the pipe and the sidewalls of the channel adjacent the pipe to provide a seal between the pipe and said open end of said chamber.

2,999,516

SHUTTLE CONTROL MECHANISM

Edward C. Nichols, Upton, and Charles P. Powell, West Medway, Mass., assignors to Draper Corporation, Hopedale, Mass., a corporation of Maine

Filed May 28, 1959, Ser. No. 816,518
15 Claims. (Cl. 139—155)



1. In a fly shuttle loom having a lay, shuttle boxing means at opposite ends of said lay, a shuttle movable along said lay and adapted to be arrested by said shuttle boxing means, the improvement which comprises means in contact with both sides of said shuttle effective to move said shuttle outwardly of said lay to a predetermined position after said shuttle has been picked into said boxing means.

2,999,517

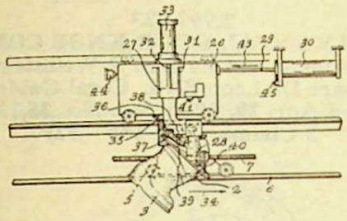
AUTOMATIC FILLING DEVICE FOR TRAVELLING MOULDS

Anthony Cervinka, Batawa, Ontario, Canada, assignor to Bata Shoe Company of Canada Limited, Batawa, Ontario, Canada

Filed Sept. 15, 1958, Ser. No. 761,089
Claims priority, application Canada Jan. 17, 1958
1 Claim. (Cl. 141—137)

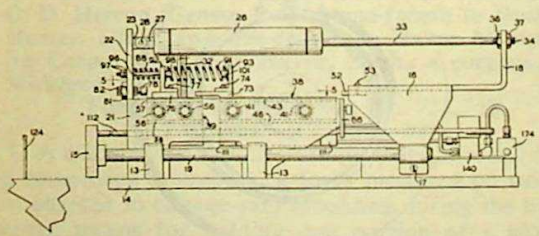
An apparatus for automatically filling open ended molds including continuously horizontally moving conveying means, open ended molds carried by the conveying means, a carrier means mounted above the conveying means for horizontal travel relative to the conveying

means, a filling gun means adapted to contain and introduce material into the open ended molds, means mounting the filling gun means for upward and downward movement relative to the containers, a cylinder and piston unit operably connected to said mounting means to move the mounting means upward and downward, switch means on the carrier means to actuate the piston and cylinder unit to move the mounting means downward, shoulder means on the covenying means for contacting the switch means to operate the switch means for moving the mounting means and filling gun means downward to engage a mold, further switch means on the mounting means operative to stop the downward movement of the mounting means, flange means on the conveying means spaced from the shoulder means for engaging the further switch means on the mounting means whereby such further switch means is operative to stop the downward movement of the mounting means and allow the filling gun means to introduce material into the mold, said shoulder being engage-



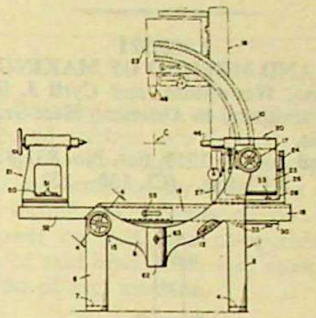
able with the mounting means when the mounting means is in the downward position to move the carrier means with the conveying means while the filling gun means is introducing material into the mold, means on the filling gun means operative when a predetermined quantity of material has been introduced into the mold to actuate said piston and cylinder unit to move the mounting means and filling gun means upward, switch means on the carrier means in the path of movement of the mounting means operative when engaged by the mounting means to actuate the piston and cylinder unit to stop the upward movement of the mounting means, a second piston and cylinder unit operably connected to the carrier means to move the carrier means in a direction opposite to that of the conveying means when the upward movement of the mounting means has been stopped, and additional switch means on the carrier means in the path of movement of the mounting means effective when engaged by the mounting means to actuate said second piston and cylinder unit to move the carrier means in said opposite direction.

2,999,518
AUTOMATICALLY ADJUSTABLE GAUGING DEVICE FOR POSITIONING AN ELEMENT
Orville E. Mowery and Robert G. Miller, Wabash, Ind., assignors to The G. M. Diehl Machine Works, Inc., Wabash, Ind., a corporation of Indiana
Filed May 12, 1958, Ser. No. 734,735
16 Claims. (Cl. 143—168)



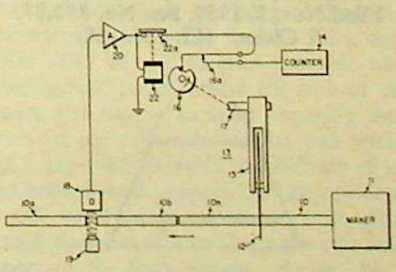
11. Sawing apparatus comprising sawing means operable to saw in a plane, a guide located for positioning material to be moved into engagement wtih said sawing means, said guide having a guiding face parallel with the plane of said sawing means, power means for moving said guide perpendicularly to said plane, means for engaging and moving material guided by said guide into engagement with said sawing means, and control means disposed in the path of, and engaged by, material moving under the influence of said engaging and moving means, said control means being effective, when so engaged, to actuate said power means to retract said guide from engagement with said material.

2,999,519
MULTI-PURPOSE POWER TOOL
Tony E. Petersen, 8833 SE. Pine, Portland 16, Oreg.
Filed June 22, 1959, Ser. No. 821,806
5 Claims. (Cl. 144—1)



1. A multipurpose power tool comprising in combination a stationary main base including a pair of spaced apart parallel segmental guide tracks, segmental slide members slidably mounted in said guide tracks, said slide members and guide tracks formed on equal radii of curvature having common centers spaced apart a distance equal to the spacing of said tracks, parallel ways permanently secured to said slide members with the longitudinal axis of the ways parallel to the planes of said slide members, a power-driven spindle, means mounting said spindle for sliding movement in a straight path along the ways parallel thereto, means for locking the spindle to the ways, the axis of said spindle extending in a direction at right angles to and intersecting a line joining said spaced apart centers throughout all movements of said slide members relative to said guide tracks and throughout all movement of the spindle along said ways.

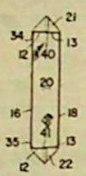
2,999,520
CIGARETTE ROD CUTTER AND CIGARETTE COUNTER
Walker B. Lowman, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Jan. 3, 1958, Ser. No. 707,035
2 Claims. (Cl. 146—101)



1. In a cigarette making machine having a means for periodically severing a predetermined length from a cigarette rod continuously formed by said machine, an apparatus comprising, in combination, a counter having an actuator means to change the state of the count registered therein by one each time said last mentioned means is actuated; detector means emitting a voltage pulse in accordance with a gap between adjacent lengths of said peri-

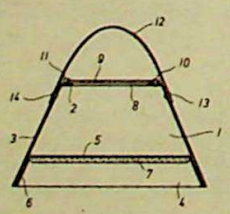
odically severed rod; an amplifier connected to said detector means for amplifying said voltage pulses; circuit means forming a low impedance path to deliver said voltage pulses to said actuator means to operate said counter; relay means having movable contacts serially connected in said circuit means intermediate said amplifier and said actuator means, said relay operable to close said movable contacts when said voltage pulse rate exceeds a predetermined minimum value; and second movable contacts operable by said machine and connected in series circuit relationship with said first movable contacts and said amplifier, said second movable contacts closing each time a cigarette is severed from said rod, said counter registering a count on closure of said first and second movable contacts.

2,999,521
POUCH AND METHOD OF MAKING SAME
Joseph J. Bono, Wauwatosa, and Cyril J. Roos, Cedarburg, Wis., assignors to American Heat-Seal, Inc., Milwaukee, Wis.
Filed Aug. 5, 1959, Ser. No. 831,835
8 Claims. (Cl. 150—13)



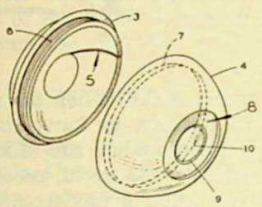
4. A mail pouch comprising an integral fabric blank folded to define a laterally enclosed storage chamber having a closed bottom and an open top, said chamber having side seams formed of common edges of said blank brought together and integrally secured by a heat sealable adhesive interposed therebetween, said closed bottom having triangular handle means integrally formed therewith and extending outwardly therefrom at each end thereof, each of said handle means being formed of a portion of a common edge of said blank open upon the formation of said seams and lapped inwardly thereto to define a multi-layer generally isosceles triangle in based relationship therewith, said triangle having a layer of heat sealable adhesive interposed intermediate said layers and activated to effect an integral complete surface to surface engagement therebetween, and said open top having closing means secured thereto for selectively opening and closing said chamber.

2,999,522
LADY'S HANDBAG
Peter Schlumbohm, 41 Murray St., New York 7, N.Y.
Filed Nov. 2, 1959, Ser. No. 850,273
1 Claim. (Cl. 150—28)



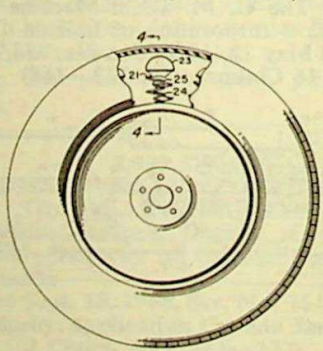
A lady's handbag characterized by nested elements comprising a first conical element and a second conical element, each said element having a top wall, an open bottom and conical side walls with an upper section adjoining the top wall and a lower section adjoining the open bottom, the conicity of the side walls being identical, the diameter of the top wall of the second element corresponding to a diameter of the lower section of the conical side walls of said first element; the lower section of the conical side walls of said first element extending towards the open end beyond the top wall of the second element and being in contact with the lower section of the conical side walls of said second element, said contact being sustained by bonding means such as glue to reinforce the lower section of the conical side walls of both elements at the common open end of the two elements, the top wall of the first element having an opening to allow access to the space below it and a closure for said opening; a mirror corresponding to the diameter of the upper section of the side walls of the second element and fastened to the top wall of said second element, said mirror facing the common open end of the two conical elements, said top wall of said second element being recessed far enough from said open end to let the side walls of said second element form a shadow-box to shade the mirror against the light which illuminates the face of the viewer.

2,999,523
ORNAMENTAL DOOR KNOB COVER
Charles J. Amdur and Edward J. Weinstein, both of 2312 Ponce De Leon Blvd., Coral Gables, Fla.
Filed Apr. 29, 1960, Ser. No. 25,706
3 Claims. (Cl. 150—52)



1. An ornamental cover for a door knob having a coaxial stem comprising a flexible inner member of predetermined thickness shaped to cover the inner portion of said knob in close proximity therewith, said inner member having a radial slit therethrough for the distension of said member when manually applied over said stem and on said inner portion of said knob, an outer cover member of predetermined thickness shaped to fit the outer portion of said knob in close proximity therewith, closure means integral with the mating outer edges of each of said cover members for securing said members together over said knob.

2,999,524
TUBELESS TIRE-RIM AND SPRING UNIT SUPPLEMENT
John A. Marison, 40 N. 8th St., San Jose 12, Calif.
Filed Jan. 5, 1960, Ser. No. 570
2 Claims. (Cl. 152—6)



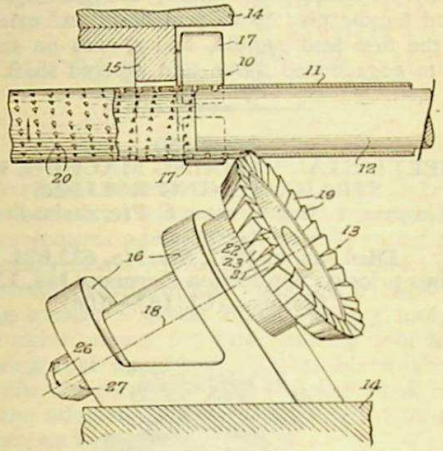
1. A tubeless tire supporting assembly comprising a rim having flanges at the sides for retaining a tubeless tire thereon, said rim having circumferentially spaced radially disposed openings extending therethrough, an outer spring

gripping washer positioned in each of said openings, a spring secured on said outer spring gripping washer, a head of elastic material carried by said spring, an inner spring gripping washer positioned within the outer spring gripping washer, an inner spring mounted in and extended from said inner spring gripping washer, a bumper of resilient material secured in the outer end of the inner spring, and a rim lock for securing the rim in position on a wheel.

2,999,525
TUBE-PERFORATING MECHANISM

Carl A. Mercer, Woodland Hills, Calif. (21300 Sherman Way, Canoga Park, Calif.)

Filed Sept. 22, 1958, Ser. No. 762,657
6 Claims. (Cl. 153—2)



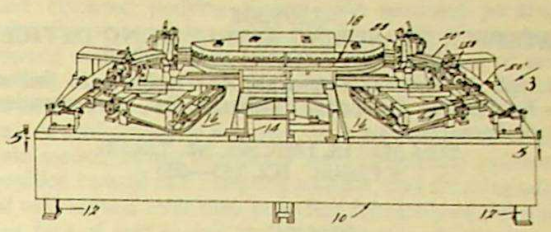
1. Tube-perforating mechanism comprising a rotary cutter having circumferentially arranged teeth, each tooth being formed to have a radial edge and a tangential edge that meet to form a penetrating apex, said cutter being disposed at an angle with its axis of rotation in a vertical plane and at an angle to the horizontal, the rotation of the cutter being in a direction advancing the teeth with the tangential edges thereof leading, and means to guide a tube along a horizontal path that lies in a vertical plane that is at an angle to the mentioned vertical plane, the successive teeth of the cutter penetrating the tube to simultaneously rotate and longitudinally advance the tube, thereby producing perforations in the tube that are arranged on a helix, the mentioned tooth edges imparting an elongated taper form to said perforations.

2,999,526
MACHINE FOR STRETCH BENDING METAL MOULDING

Robert W. Williamson, New Baltimore, Mich., assignor, by direct and mesne assignments, of one-fourth to O. D. Herron, Grosse Pointe, one-fourth to Dudley A. Hunter, Utica, and one-fourth to Haven Manufacturing Corporation, New Haven, Mich., a corporation of Michigan

Filed Mar. 17, 1958, Ser. No. 721,748
17 Claims. (Cl. 153—32)

1. A machine for stretch bending strips of metal moulding comprising a support, a form mounted on said support adapted to engage said moulding during the bending thereof, means for holding one portion of a moulding strip in engagement with one portion of said form, a carriage arm mounted on said support in spaced relation to said form for rotation about a first axis, a slide mounted on said carriage arm for reciprocation therealong, a head mounted on said slide for rotation relative thereto about a second axis, clamp means mounted on said head and adapted to grip an end portion of said moulding, a cam follower mounted on said slide, a cam mounted on said support for engagement by said cam follower, power means acting between said carriage arm and said slide for urging said slide in one direction relative to said arm and forcing said follower against said cam, said cam being so shaped and disposed that said power means in

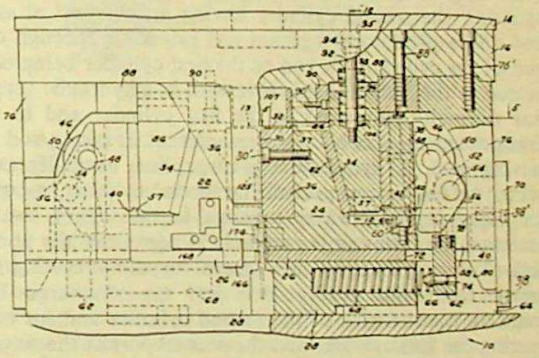


forcing said follower against said cam produces a moment urging said carriage arm to rotate about said first named axis in the direction of rotation thereof during operation of said machine for bending a strip of metal moulding, a second cam mounted on said support and a second follower on said head co-operating to control the rotation of said head about said second axis during said operation of said machine.

2,999,527
AUTOMATIC RESTRIKE DIE AND FEED MECHANISM

Joseph A. Klavon, Jr., Jackson, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware

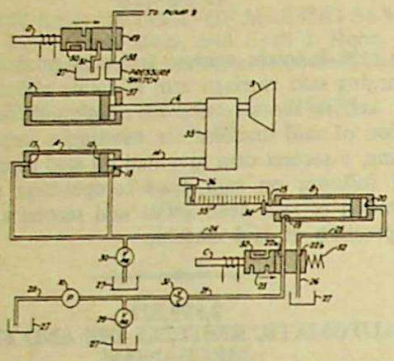
Filed Apr. 1, 1958, Ser. No. 725,752
4 Claims. (Cl. 153—34)



1. Apparatus for finish forming an article such as a brake shoe of T-section composed of a web and a transverse rim extending along one edge of the web, said apparatus comprising a support for the shoe, opposed dies on opposite sides of said support movable toward each other along guided paths to grip the web of the shoe on said support and having surfaces engaging the web side of the trim on opposite sides of the web while the web is gripped, a third die movable transversely of said guided paths and toward said support into engagement with the opposite side of the rim and cooperable with said surfaces of said opposed dies to shape the rim and square it with respect to the web, means operated by the movement of said third die toward said guided paths for moving said opposed dies toward each other into gripping relation with the web prior to the engagement of said third die with the rim, and back-up cams carried by said third die and wedgingly engageable with said opposed dies during the final stage of the movement of said third die toward said paths for urging said opposed dies toward each other into firm gripping engagement with the web and for backing up said opposed dies during the sub-

sequent engagement of said third die with the rim, means mounting said back-up cams on said third die for reciprocation relative to said third die in the direction of movement of the latter, and resilient means yieldably opposing movement of said back-up cams relative to said third die away from said guided paths.

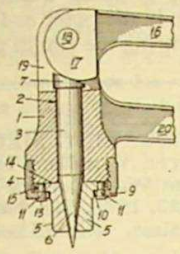
2,999,528
STRETCH MEASURING AND LIMITING DEVICE FOR STRETCHING MACHINES
Joseph A. Kurtak, Pittsburgh, Pa., assignor to Sutton Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 15, 1958, Ser. No. 735,521
9 Claims. (Cl. 153—35)



1. A stretch measuring and limiting device for use with a stretching machine having a hydraulically movable head for gripping and stretching a workpiece, said device comprising two hydraulic cylinders, the first cylinder having a fluid displacing rod extending through one end of the cylinder, the second cylinder having a fluid port at each end and a piston and a piston rod extending through one end of the cylinder, the rod of the first cylinder being connected to the head and movable with it, a hydraulic supply line normally connected to the first cylinder and to the first port of the second cylinder adjacent its piston rod receiving end, a hydraulic discharge line normally connected to the second port of the second cylinder, a pump for supplying fluid under pressure to the supply line to maintain the piston in the second cylinder normally at one end of that cylinder, valve means for disconnecting the pump from the supply line and the discharge line from the second port of the second cylinder and for connecting the first cylinder and the second port of the second cylinder in a closed hydraulic circuit, valve actuating means operative in response to a predetermined force exerted by the head on the workpiece, and limiting means adapted to be actuated by a predetermined relative movement between the second cylinder and its piston rod for stopping further stretching movement of the head.

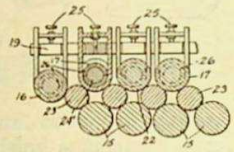
2,999,529
EXPANDING TOOL FOR PIPES
Wlodzimierz Rast, 46 Kanbara St., Flinders Park, South Australia, Australia
Filed Nov. 12, 1958, Ser. No. 773,389
Claims priority, application Australia Nov. 13, 1957
1 Claim. (Cl. 153—80)

An improved tube expander comprising a series of jaws, an outward flange on each jaw, a pin on each said flange, a main body having a hollow therein, a holding member engageable on one end of the said body having an inward flange and elongated apertures in said flange engaged by said pins whereby the said jaws are confined on said holding member but may be expanded or contracted thereon, a circlet urging said jaws into contracted position, said flanges on said jaws being confined between the said inward flange on said holding member and a face on said body to prevent axial movement of said jaws, a tapered shaft axially movable in the hollow of said body to expand or contract said jaws, a handle on



said body projecting substantially at right angles thereto, a second handle pivoted to said body and extending adjacent the first said handle, and a cam on said second handle to engage and move said tapered shaft.

2,999,530
SHEET METAL WORKING MACHINE WITH STRAIGHTENING ROLLERS
Fritz Ungerer, Arlingerstrasse 6, Pforzheim-Brotzingen, Germany
Filed Jan. 8, 1957, Ser. No. 633,074
Claims priority, application Germany Jan. 13, 1956
4 Claims. (Cl. 153—106)

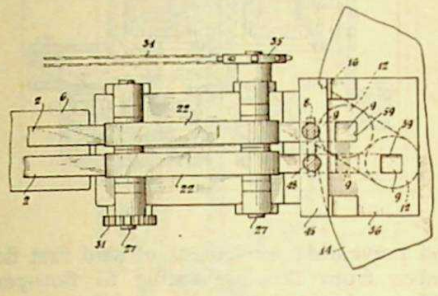


1. A sheet metal working machine comprising a plurality of spaced sheet straightening rollers, a plurality of spaced flexible intermediate rollers disposed above said straightening rollers for supporting said straightening rollers along the entire width of a sheet being worked upon during passage against said straightening rollers, said straightening rollers forming V-shaped formations therebetween, said intermediate rollers being disposed in said V-shaped formations and being further located in front and rearwardly of said straightening rollers, said intermediate rollers being of substantially the same length as said straightening rollers, supporting rolls of considerably shorter length than said straightening rollers and arranged in staggered relationship with respect to each other and disposed independently of said intermediate rollers above said intermediate rollers, and means for individual adjustment of at least some of said supporting rolls relative to said intermediate rollers, said supporting rolls each bearing against two adjacent intermediate rollers.

2,999,531
METHOD AND MEANS FOR FORMING AND INSERTING GASKET BLANKS IN CLOSURES
Daniel D. Acton, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Nov. 4, 1955, Ser. No. 545,051
3 Claims. (Cl. 154—1.5)

1. A device for inserting substantially rectangular gasket blanks into closures comprising a gasket strip forming means adapted to form a strip of predetermined width and thickness, a gasket insertion plate having a generally rectangular aperture corresponding to the shape of the gasket blank and slightly smaller than said blank, a closure positioning means adapted to present closures suc-

cessively beneath said aperture, a gasket strip advancing means adapted to contact a gasket strip formed by said gasket strip forming means and positioned between said gasket strip forming means and the gasket blank insertion plate aperture and adapted to intermittently advance the gasket strip a distance equal to a gasket blank length, a straight-line cutter reciprocally mounted adjacent the path of the gasket strip between said gasket strip forming means and the said aperture, cutter drive means adapted to move said cutter during the interval between gasket strip movement to sever said gasket strip and to thereby



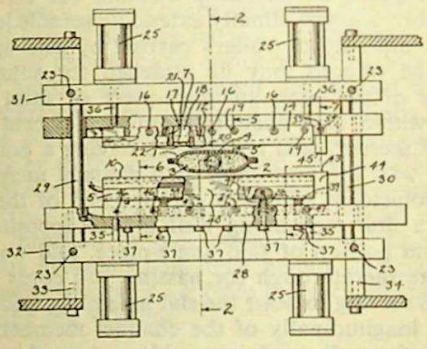
cut a gasket blank therefrom a plurality of gasket blank lengths from the end while the gasket strip is stationary whereby subsequent advancement of said gasket strip by said advancing means moves said gasket blanks above a closure presented beneath said aperture by said closure positioning means, a gasket blank pressing tool, and a reciprocal drive means for said pressing tool to move said pressing tool against the gasket blank above the closure while the closure is at the gasket blank insertion aperture and adapted to move the gasket blank through said aperture and against the closure.

2,999,532

COMBINED SHEAR AND HEAT SEAL APPARATUS

George J. Bursak, 5601 W. Auer Ave., Milwaukee 16, Wis.

Filed Sept. 17, 1958, Ser. No. 761,491
3 Claims. (Cl. 154—42)



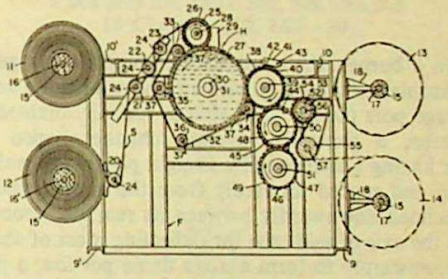
1. In an apparatus for transversely sealing and shearing a tube of heat sealable sheet material to form packages therefrom, the combination comprising: a pair of facing support members disposed on opposite sides of said tube and arranged for opposed reciprocal movement toward and away from said tube; a first sealing member mounted on one of said support members and having a sealing face adjacent and transverse to said tube; a second sealing member retractably mounted on the other support member and having a sealing face adjacent and transverse to said tube, said second sealing member being adapted to move between extended and retracted positions with respect to said other support member and being biased toward said extended position; means to heat at least one of said sealing members; a first knife blade mounted on said one of said support members and having a shearing edge substantially coextensive with the sealing face of said first sealing member; a second knife blade mounted on said other support member and having a shearing edge extending forwardly toward said tube, said shearing edge of said second knife blade extending forwardly further than the sealing face of said second sealing member only when said second sealing member has been moved from said extended position toward said retracted position, whereby opposed movement of said support members toward said tube initially causes the sealing faces of said sealing members to clampingly engage a transverse section of said tube therebetween and continuation of such motion causes said clamping engagement to be maintained while said second sealing member is moved from said extended position toward said retracted position, said shearing edge of said second knife then extending forwardly of the sealing face of said second sealing member to shearingly engage said first knife blade to transversely shear said tube; and bias means to cause said first knife blade and said second knife blade to be maintained in tight shearing engagement.

2,999,533

APPARATUS FOR MAKING BAGS

Lamont Slagel, Denver, and Harry A. Mead, Lakewood, Colo., assignors to Dairy Containers, Inc., Denver, Colo., a corporation of Colorado

Filed May 1, 1959, Ser. No. 810,470
18 Claims. (Cl. 154—42)



1. Apparatus for making bags of flexible, heat sealable material from a strip of said material in flat form having opposed walls in abutting relation and connected at the lateral edges, comprising a rotating cylindrical drum provided with heating units having a position and extent on said drum corresponding to heat seals joining said walls to be produced for at least one bag; means for moving said strip around said drum and into engagement with said heating units; means for producing at least one longitudinal slit in said strip of a predetermined extent and at spaced longitudinal positions along said strip corresponding to the length of a bag; and means for producing a transversely extending series of perforations in said strip at spaced positions along said strip corresponding to the length of a bag.

2,999,534

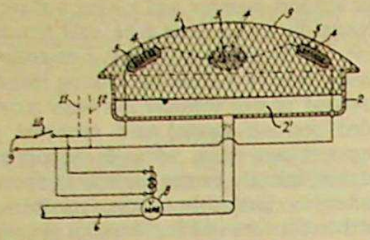
CATALYTIC HEATING DEVICE

Hans Wagner, Osnabruck, Germany, assignor to Fireless Gas Heater Corporation, Houston, Tex., a corporation of Texas

Filed Aug. 13, 1956, Ser. No. 603,708
4 Claims. (Cl. 158—99)

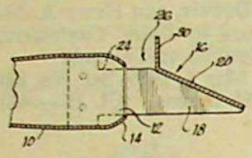
1. A catalytic heater for operation with gaseous or gasified liquid fuel comprising, a catalytic heating pad made of a material of low catalytic activity, said pad having a plurality of spaced portions made of a material of high catalytic activity and being embedded internally of said pad and entirely enclosed by said pad entirely beneath the outer surface thereof and spaced from said outer surface, electric heating elements operatively associated with said spaced portions of high catalytic activity,

respectively, for causing vigorous catalytic reaction in spaced portions, whereby said spaced portions of high



catalytic activity activate said heating pad in adjacent spaced portions thereof for accelerating the catalytic operation of said heating pad.

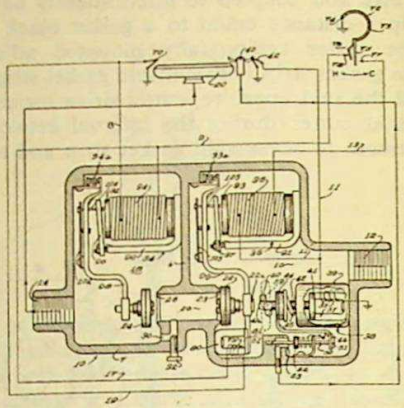
2,999,535
FLAME SHAPERS
Jerry T. Alger, Chicago, Ill., assignor, by mesne assignments, to Configured Tube Products Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 20, 1957, Ser. No. 647,302
5 Claims. (Cl. 158—113)



4. In a burner, the combination comprising a generally horizontal mixture tube with a front end having an axial discharge port therein to discharge fuel-air mixture from said tube, a generally inverted channel-shaped flame shaper having a substantially straight planar top wall with its rear end spaced forwardly from the end of said tube and inclined downwardly between its rear and front ends across the axis of said tube for deflecting most of the mixture downwardly to form a main flame portion, a pair of opposed laterally spaced sidewall flanges projecting downwardly from said top wall and extending generally from rear to front along said top wall to confine the portion of the mixture intercepted by said top wall, said sidewall flanges having leg portions constituting rearward extensions thereof and extending rearwardly of the rear end of said top wall and terminating in mounting portions secured to said mixture tube, said leg portions having a gap therebetween opening upwardly between said front end of said tube and said rear end of said top wall, and a flame-retaining wall connected to the rear end of said top wall at the front end of said gap and extending upwardly from said top wall and in a transverse direction relative to the general direction of said sidewall flanges, said flame-retaining wall being spaced forwardly from the front end of said tube and opposite a portion of said port for carrying a portion of the mixture upwardly through said gap to form a relatively small upwardly directed secondary flame portion.

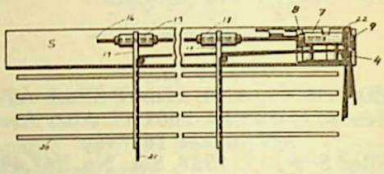
2,999,536
FLOW CONTROL DEVICE
Joseph C. Schwallbach, Wauwatosa, Wis., assignor to Baso Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 17, 1955, Ser. No. 547,462
17 Claims. (Cl. 158—123)

1. A flow control device for fluid fuel burning apparatus having a burner comprising, an on-off first flow control member having flow-preventing and flow-permitting positions, electroresponsive operator means for said flow control member, a second flow control member having increased flow-permitting and reduced flow-permitting positions, and interlock means associated with said first flow control member and responsive to the heat of burning fuel at said burner for overcalling said operator



means and preventing movement of said first flow control member from flow-preventing to flow-permitting position when said second flow controlling member is in reduced flow-permitting position.

2,999,537
VENETIAN BLINDS
Holger Bror Martin Falck, Abacksgatan 6, Goteborg, Sweden
Filed Sept. 1, 1959, Ser. No. 837,507
2 Claims. (Cl. 160—177)

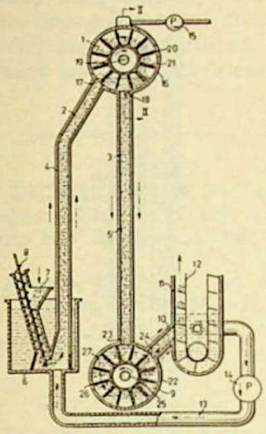


1. A control mechanism for Venetian blinds, comprising an elongated channel-strip member for carrying the slat assembly, a longitudinally extending spindle journalled therein, a plurality of rollers carried by said spindle to which blind ribbons may be attached for adjusting the inclination of the slats, an angle-piece of sheet material disposed within said channel member adjacent one extreme end thereof, said angle-piece having a bottom portion flush with the bottom of said channel member with one end coincident with said extreme end of the channel member, a first upstanding wall at the opposite end of said bottom portion of said angle-piece, said wall having an aperture therethrough for passing pull cords of Venetian blinds serving to hoist the slat assembly, said aperture extending longitudinally of the channel member, a guide roller for the pull cords rotatably mounted within the angle-piece and adjacent said extreme end of the channel member, said one end of said angle-piece including a second upstanding wall opposing said first wall in spaced relation, a control roller being rotatably mounted in said spaced upright walls, said control roller being provided with an axially extending recess fixedly receiving the adjacent end of said spindle, said control roller having reduced end portions to facilitate mounting the roller in said walls, and said walls having upward opening recesses for receivably supporting said control roller, said control roller being provided with a diametrically extending through bore for receiving a control cord for rotating said roller, and said angle-piece having two apertures on either side of said control roller for receiving the respective portions of a control cord.

2,999,538
IMPREGNATION APPARATUS

Heinrich Hüllmann, Wurttemberg, Germany, assignor to Escher Wyss G.m.b.H., Ravensburg, Germany, a corporation of Germany

Filed Aug. 31, 1959, Ser. No. 837,052
Claims priority, application Germany Sept. 9, 1958
9 Claims. (Cl. 162—237)



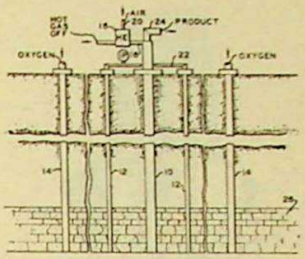
1. An apparatus for impregnating fibrous materials with digesting liquid in the production of cellulose or semi-cellulose comprising an introduction container for the fibrous materials to be impregnated; a vacuum chamber; an impregnation chamber; a separation chamber; flow connections defining a circuit for impregnation liquid which leads serially through said introduction container, then through said vacuum chamber, then through said impregnation chamber, then through said separation chamber and then again through said introduction container; means in said circuit for circulating the impregnation liquid; means for introducing the fibrous materials to be impregnated into the introduction container and for continuously admixing them with the circulating liquid; means arranged in said separation chamber for separating the fibrous materials together with impregnation liquid absorbed and adsorbed by them from the circulating liquid; the vacuum chamber comprising a generally cylindrical housing having circumferentially spaced openings for the inlet and outlet of the circulating liquid; a rotary bucket wheel arranged within said housing coaxially therewith and provided with radially extending partitions for conveying the fibrous materials from the inlet opening to the outlet opening; said partitions having strainer-like orifices which allow the impregnation liquid to pass from the inlet opening to the outlet opening in opposite direction to the rotation of the wheel but not the fibrous materials contained herein; and pump means for removing separated air from the vacuum chamber and maintaining the vacuum.

2,999,539
IN SITU COMBUSTION PROCESS

William S. Walls, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 7, 1957, Ser. No. 694,945
8 Claims. (Cl. 166—39)

5. A process for initiating combustion in a permeable carbonaceous stratum and recovering hydrocarbons therefrom by in situ combustion comprising passing a gas at a temperature in the range of about 225 to 400° F. radially thru an annular section of said stratum between an ignition borehole and a series of surrounding first injection boreholes spaced from said ignition borehole a distance of several feet so as to heat said section to a temperature of at least the boiling point of connate water and not above 350° F.; while said section is at said temperature, heating the carbonaceous material at said ignition borehole to ignition temperature; passing air thru said section from said first injection boreholes to the hot area at said ignition borehole to initiate combustion of carbonaceous material; continuing air injection thru said first

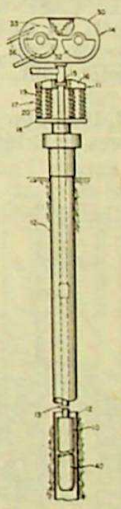


injection boreholes to advance the resulting combustion zone outwardly thereto; closing said first injection boreholes and injecting air into a series of second injection boreholes radially outside of said first series to feed said combustion front; and recovering hydrocarbons produced by the combustion thru said ignition borehole.

2,999,540
SONIC HEATER FOR WELLS

Albert G. Bodine, Jr., 13120 Moorpark St., Sherman Oaks, Calif.

Filed July 20, 1959, Ser. No. 828,340
18 Claims. (Cl. 166—39)



1. The process of heating production well fluids within and surrounding a production well bore in a producing oil field, that comprises: generating sonic wave energy at the ground surface, transmitting said sonic wave energy down the well bore to a production region via a solid elastic wave transmitting column, and converting the sonic wave energy received at the lower end of said column to heat energy by oscillating a member coupled to said lower end of said column relative to a heat generating body, while holding said body in frictional contact therewith.

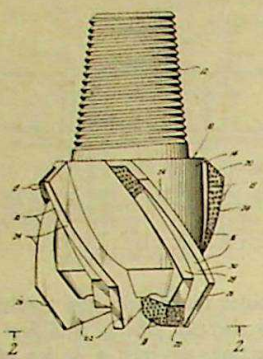
2,999,541
MILLING TOOL

Robert B. Kinzbach and William Strecker, Houston, Tex., assignors to Kinzbach Tool Company, Incorporated, Houston, Tex., a corporation of Texas

Filed Oct. 11, 1957, Ser. No. 689,650
9 Claims. (Cl. 166—55.7)

1. A milling tool comprising a generally cylindrical body having a threaded portion of reduced external di-

ameter at its upper end for connection to the lower end of a drill string for rotation with the string, external cutting blades on the body having lower portions extending radially from the center of and projecting downwardly from the lower end of said body in angularly spaced relation and out of diametrical alignment



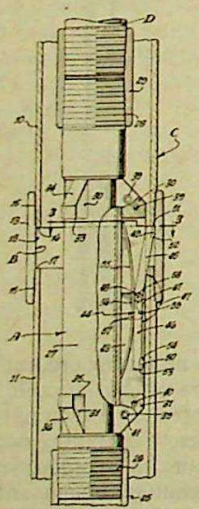
relative to each other to prevent said lower portions from assuming positions in straddling relation to the end portion of a work piece positioned in endwise abutting engagement therewith and portions of helical shape extending radially outwardly from the body and upwardly from the outer ends of said lower portions.

2,999,542

LOCATOR FOR WELL CASING COLLAR SPACES AND SIMILAR RECESSES

William D. Myers, Norwalk, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed June 24, 1957, Ser. No. 667,443
14 Claims. (Cl. 166—64)



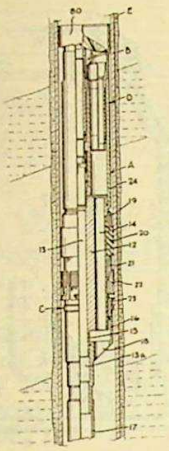
1. In apparatus adapted to be run in a well conduit having a recess therein: a supporting member adapted to be moved longitudinally in the well conduit; a locating member pivotally mounted on said supporting member and movable laterally of said supporting member and adapted to move into the recess; means engaging said locating member at its pivot region to shift said locating member laterally outward of said supporting member and into the recess; and cam means on and movable with said supporting member and engaging said locating member to shift said locating member laterally inward from said recess in response to longitudinal movement of said supporting member in the well conduit.

2,999,543

PARALLEL TUBULAR STRING APPARATUS FOR WELL BORES

William D. Myers, Norwalk, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed July 11, 1958, Ser. No. 748,008
18 Claims. (Cl. 166—129)



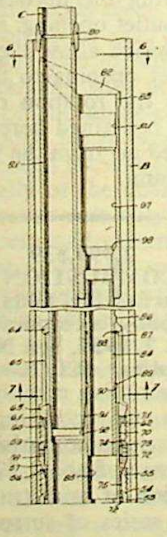
1. In apparatus to be disposed in a well bore: a body member having first and second passages therein, said first passage having a larger diameter than said second passage; first guide means on said body inclined downwardly toward and extending to said second passage and adapted to be engaged by a second tubular string extending from the top of the well bore to direct said second tubular string to said second passage; and a second guide means on said body inclined downwardly from said second passage toward and extending to said first passage and adapted to be engaged by a first tubular string extending to the top of the well bore to direct said first tubular string to said first passage.

2,999,544

RETRIEVABLE PARALLEL STRING WELL PACKER APPARATUS

Martin B. Conrad, Downey, and William S. Althouse, Jr., Arcadia, Calif., assignors to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed June 9, 1958, Ser. No. 740,709
17 Claims. (Cl. 166—134)



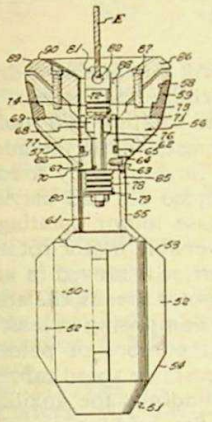
1. In a well apparatus adapted to be set in a well conduit disposed in a well bore: a body; normally retracted means on said body operable by manipulation of

said body for anchoring said body to the well conduit against downward movement therewithin; a plurality of longitudinally spaced expanders on said body, each expander having an expander surface tapering in a downward and inward direction; a plurality of sets of normally retracted slips engaging said expander surfaces; said expanders and slip sets being arranged in series and being interassociated; means for shifting said expanders and slips simultaneously longitudinally of each other to expand said slips into engagement with the well conduit; said slips having conduit engaging teeth facing in an upward direction to prevent upward movement of said body in the well conduit.

2,999,545
RETRIEVABLE PLUG

Herbert L. Bigelow, Whittier, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed June 3, 1957, Ser. No. 663,288
7 Claims. (Cl. 166—153)



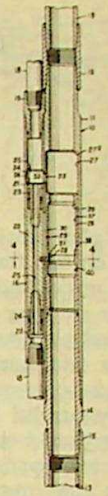
1. In a plug adapted for longitudinal movement in a well conduit: a valve device having a sealing surface adapted to engage a companion seat in the well conduit; said device having a passage through which fluid may flow between regions externally of said device above and below said sealing surface; said device having a valve seat therein surrounding said passage; a valve member movable downwardly into engagement with said seat; said valve member having means connectible to a wire line to be elevated by said wire line from said seat to open said passage; and means interconnecting said device and valve member with said valve member elevated from said seat, whereby said device and valve member are movable together upwardly in the well conduit.

2,999,546
SIDE PORT VALVE ASSEMBLY WELL TOOLS

George G. Grimmer and Harry B. Schramm, Dallas, Tex., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Texas

Filed Jan. 30, 1957, Ser. No. 637,124
30 Claims. (Cl. 166—224)

1. A flow controlling device for use with a pair of well flow conductors including: an elongate tubular body member connectable in one of said flow conductors; a tubular valve housing disposed exteriorly of said body member and extending parallel thereto and adapted to be connected in the second of said flow conductors; said flow controlling device having a lateral port means communicating between the interior of said body member and the interior of said valve housing; a valve member mounted in said valve housing for movement therein from a first position opening said port means to a second position closing said port means; a sleeve mounted in said body member and slidable therein; means extending between and engaging said sleeve and said valve member for connecting said sleeve to said valve member for causing said valve member to move with said sleeve

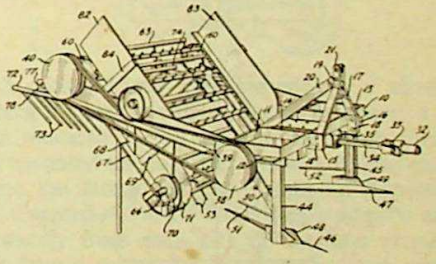


whereby movement of said sleeve moves said valve member from said first position to said second position; said sleeve having an upwardly facing shoulder and a downwardly facing shoulder engageable by a suitable shifting tool to move said sleeve.

2,999,547
PEANUT DIGGER AND SHAKER

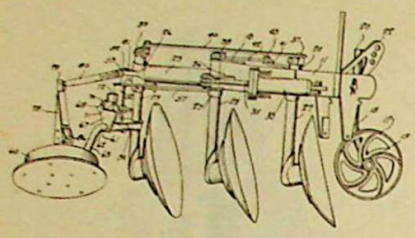
William Redden Long, Tarboro, N.C., assignor to Long Manufacturing Company, Tarboro, N.C.

Filed Jan. 21, 1960, Ser. No. 3,954
9 Claims. (Cl. 171—101)



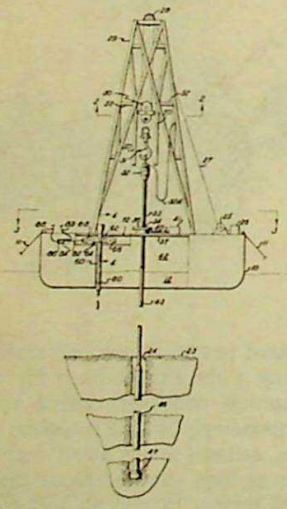
1. A combined peanut digger and shaker comprising a frame including a three-point hitch for attachment to a tractor, an endless conveyor carried by said frame, a pair of correspondingly spaced sprockets one at each side of said frame, endless chains about each pair of sprockets, spaced cross bars attached along the lengths of said chains, spaced prongs carried by said cross bars, striker bar means across and of a length substantially equal to the width of the conveyor and mounted in association with said conveyor to move between the cross bars thereof and to strike the vines carried by the conveyor to impart a jarring blow thereto, a pair of angularly disposed plow blades supported below the forward portion of said frame and adapted to sever the tap roots of the peanuts when the machine is operated, and means for attaching the machine to a tractor in a manner that it can be both pulled and the conveyor driven by the tractor.

2,999,548
REVERSIBLE DISC PLOW
Philip D. Wenzel, Stockton, Calif., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 30, 1960, Ser. No. 18,750
8 Claims. (Cl. 172—212)



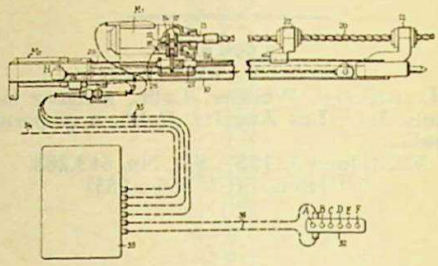
1. A reversible disc plow implement having a main frame, a beam pivoted on said frame so as to be swingable on a substantially vertical axis to reverse the plowing direction, means for swinging said beam, a plurality of spaced, axially vertical plow axles rotatably mounted on said beam, discs on said axles, a support pivotally mounted on said implement so as to rotate on an axis extending approximately parallel with the median line of said implement, a rocker mounted on said support so as to rock about an axis approximately parallel with and below the support axis, means synchronized with said beam-swinging means for moving said rocker clockwise about its axis when viewed from the rear when said beam is swung from right-hand plowing to left-hand plowing and vice versa, and a side-thrust-resisting furrow wheel mounted to rotate on said rocker.

2,999,549
DRILLING
Hal Stratton, Pasadena, Calif., assignor to Shell Oil Company, Continental Oil Company, both corporations of Delaware, Superior Oil Company, Union Oil Company of California, both corporations of California, all of Los Angeles, Calif.
Filed Sept. 30, 1957, Ser. No. 687,003
14 Claims. (Cl. 175—5)



1. Apparatus for drilling a hole in a formation underlying a body of water comprising a floating vessel having a cellar opening at its bottom into the water, means for anchoring the vessel over the formation, a rotary drilling derrick mounted on the vessel over the cellar, a derrick floor disposed over the cellar, a rotary table mounted in the derrick floor, an outwardly extending track mounted on the vessel with one end nearer the rotary table than the other end, a carriage adapted to move on the track, an elongated and downwardly extending scabbard in the cellar, a pivot connecting the upper portion of the scabbard to the carriage, and means for moving the carriage to carry the scabbard toward and away from the rotary table.

2,999,550
DRILLING MACHINE
Jean Gerentes, Saint-Etienne, France, assignor to Constructions Electro-Mecaniques de Saint-Etienne (Ancienne Usine Wageor), Saint-Etienne, France, a corporation of France
Filed Oct. 30, 1957, Ser. No. 693,475
Claims priority, application France Oct. 31, 1956
1 Claim. (Cl. 175—33)



A variable feed drill comprising a drilling tool, a longitudinally movable drilling tool carrier, a three-phase main motor coupled to and rotating said tool, a threaded member, a nut member engaging the threaded member, one of said members being longitudinally fixed, the other of said members being coupled to said carrier for moving the same, said three-phase motor rotating said other member, an auxiliary reversible motor rotating said one member whereby said carrier is moved in accordance with the difference between motor speeds, the auxiliary motor being a three-phase motor comprising at least two field windings including a different number of poles so that said auxiliary motor has at least two speed ranges each corresponding to one of said windings, the auxiliary motor having a greater slip than the first said motor and having a plurality of speed ranges, a control device independent of and coupled to the auxiliary motor for commutating the field windings thereof thereby automatically changing the range in accordance with the type of substance to be drilled, said control device comprising an electro-mechanical control including manually operated contactors, said control being coupled to said motors for a manual control of the movement of the carrier and of the speed range of the auxiliary motor, an over-current relay disposed in the current supply of the first said motor, and circuits coupled to the auxiliary motor and relay, said relay actuating the winding of the auxiliary motor having the larger number of poles when current in the first said motor achieves a predetermined level.

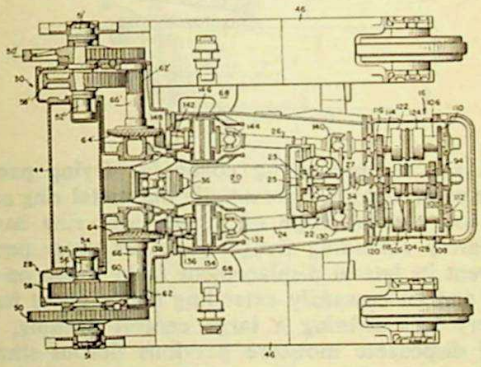
2,999,551
METHOD OF AIR DRILLING
Robert P. Murphy, Jr., Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Sept. 23, 1957, Ser. No. 685,406
9 Claims. (Cl. 175—68)

1. In a method of drilling a well in which a gas is used as the circulation fluid and wherein the rate of influx of aqueous formation fluids into the well bore is sufficiently high to interfere with the effective removal of cuttings from said well during the drilling thereof but said influx is not in excess of about 2 barrels per hour, the improvement which comprises injecting into said gas before it passes into said well, a finely divided solid nontoxic oil soluble metal soap derived from a metal selected from the group consisting of aluminum, magnesium, calcium, zinc and lithium, and from an aliphatic carboxylic acid having from about 8 to 18 carbon atoms.

2,999,552
TUBULAR DRILL STRING MEMBER
Fred K. Fox, 242 Stoney Creek Drive, Houston, Tex.
Filed Mar. 4, 1959, Ser. No. 797,180
5 Claims. (Cl. 175—323)

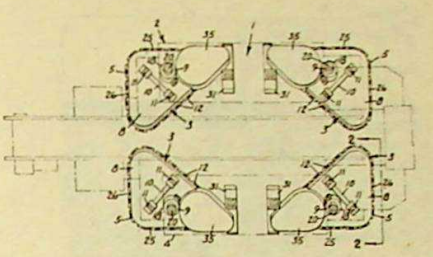
2. An integral, elongate tubular member having means at its opposite ends for connection in a drill string and at least one helical groove in its outer peripheral surface, which has a base forming, in any section transversely of said member, a line which is at least substantially flat and intersects at its opposite ends with said peripheral surface.

2,999,553
VEHICLE DRIVE ARRANGEMENT
Daniel M. Schwartz, Salt Lake City, Utah, assignor to The Eimco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed Feb. 27, 1958, Ser. No. 717,972
3 Claims. (Cl. 180—6.7)



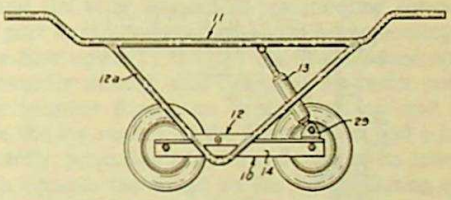
1. A mobile material handling machine having a main frame, a traction unit transmission at the forward end of the main frame, said transmission unit including at least an input shaft and dual output shafts, each of said shafts extending rearwardly from said traction unit transmission, said dual output shafts being independently connected to change speed and reverse gears in the traction unit transmission, a prime mover mounted on said main frame rearwardly of the traction unit transmission, means drivably connecting the prime mover to the input shaft of the traction unit transmission, dual final drives at the rearward end of the main frame, paired traction units for the material handling machine, means connecting each of the traction units to its respective final drive, dual torque shafts independently connecting the dual output shafts from the traction unit transmission to the dual final drives whereby the traction units are independently and simultaneously operable in either direction of rotation.

2,999,554
MACHINE PROPELLING MECHANISM
John H. Wagner, Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 3, 1958, Ser. No. 746,518
20 Claims. (Cl. 180—6.48)



1. A crawler mounted machine propelling means comprising a frame having angularly related portions extending in directions one transversely to the other providing guiding means, endless crawler tread means guided for circulation along said guiding means of said frame portions, and means for adjustably mounting said frame whereby the latter may be adjusted selectively to bring said crawler tread means of one portion or the other into contact with the ground whereby the machine may be propelled in relatively different directions.

2,999,555
MOTORIZED LITTER
Malcolm Brooks Stroud, 296 Hope Ave., Santa Barbara, Calif., and Donald Floyd Greene, 318 E. Gutierrez St., Santa Barbara, Calif., assignors of one-third to Harry W. Brelsford, Santa Barbara, Calif.
Filed Aug. 29, 1957, Ser. No. 680,939
3 Claims. (Cl. 180—19)

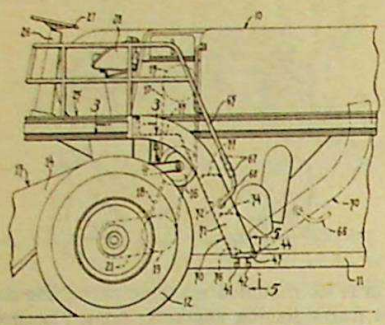


1. A motor driven litter comprising: a wheel frame including a pair of parallel frame members; a pair of wheels mounted in line between the frame members; a motor mounted on the wheel frame; a driving connection between the motor and the wheels; an elongated litter frame disposed above the wheel frame; supports extending downwardly from each side of the litter frame to the motor frame; means for pivoting the litter supports to each frame member of the motor frame along a horizontal transverse axis and disposing the direction of elongation with the line of the wheel pair, and means to limit the rate of angular movement between said wheel frame and said litter frame about said pivot, said pivot and said means being the only connections between said wheel frame and said litter frame whereby said litter frame may be readily maintained in horizontal position regardless of the inclination of the wheel frame in ascending or descending hills.

2,999,556
OPERATOR'S PLATFORM FOR COMBINES
Donald S. Horne, Robert Ashton, and Leslie L. Kepkay, Toronto, Ontario, Canada, assignors to Massey-Ferguson Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Dec. 18, 1959, Ser. No. 860,535
3 Claims. (Cl. 180—89)

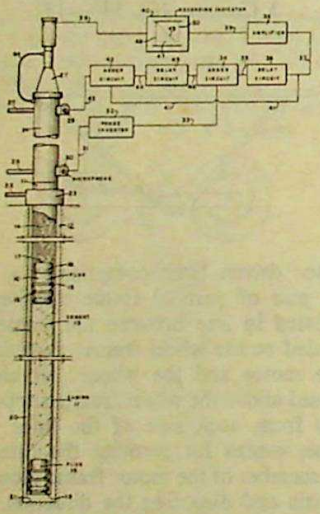
1. In a combine having a body supported by ground engaging wheels which include a front wheel, the com-

bination comprising, an operator's platform mounted on the top front of said body at a level above the top of said front wheel, an inclined frame extending fore and aft of said body from said platform back over said front wheel to a point near the bottom of said body, supports on said frame permitting an operator to easily climb to



and descend from said platform, and horizontal hinge structure joining said frame and said body at said point arranged so that said frame can be tilted about a horizontal axis back away from the platform to make accessible that area of the body which is adjacent said front wheel.

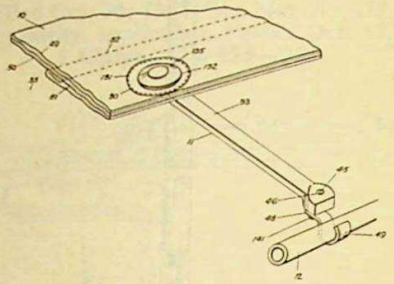
2,999,557
ACOUSTIC DETECTING AND LOCATING APPARATUS
Edward W. Smith, Melrose Highlands, Mass., and George V. Copland, Duncan, Okla., assignors to Halliburton Company, a corporation of Delaware
Filed May 28, 1956, Ser. No. 587,765
20 Claims. (Cl. 181—.5)



7. Apparatus for determining the depth of a plug in a well comprising a conduit having liquid therein, a source of acoustic energy operatively coupled to said liquid, acoustic energy detecting means operatively coupled to said liquid adjacent the top portion of said conduit, and circuit means operatively connected to said detecting means for determining the distance of said plug therefrom.

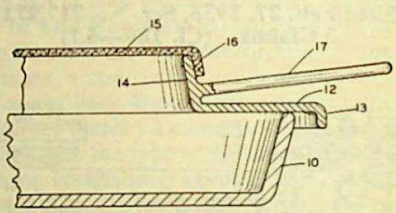
2,999,558
STRAP FOR A TUMBLING DEVICE
Joseph H. Bohrer, Sr., Erie, Pa., assignor to Continental Rubber Works, Erie, Pa., a corporation of Pennsylvania
Filed July 31, 1957, Ser. No. 675,399
3 Claims. (Cl. 182—139)

1. A tumbling device comprising a frame, a tumbling surface, tensioning members attaching said tumbling surface to said frame, said frame comprising side members and end members defining an opening, each said tensioning member having one end thereof attached to said tumbling surface and the other end thereof attached to said frame, said one end of each said tensioning member having a head integrally attached thereto by means of a neck portion, spaced holes in said tumbling surface adjacent the periphery thereof, said neck portions each being dis-



posed in one of said holes with said heads having an outwardly directed flange overlying the top side of said tumbling surface and the bodies of said tensioning members being disposed against the bottom side thereof below said tumbling surface, and means to attach the ends of said tensioning members opposite said heads to said frame, said heads, neck portions, and bodies of said tensioning members being made of resilient rubber like material.

2,999,559
SPLATTER GUARD FOR FRYING PANS AND THE LIKE
Samuel D. Boyer, 15390 West U.S. 40, Golden, Colo.
Filed Apr. 4, 1958, Ser. No. 726,447
3 Claims. (Cl. 183—1)

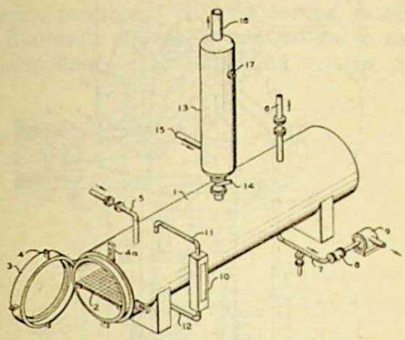


1. A splatter preventing cover for frying pans and the like comprising a substantially flat metal ring adapted to rest on the top edge of a pan, said ring having a downwardly extending flange about its outer periphery to prevent its lateral displacement from a pan on which it rests and an upwardly extending flange about its inner periphery and defining a large central opening, and a disc of disposable moisture pervious fibrous sheet material having a flange formed thereon about its outer periphery and fitting the outer wall of said upwardly extending flange for holding said disc in position on said ring, said disc being held in position by engagement of its flange about said upwardly extending flange whereby said disc falls from said ring when said ring is inverted.

2,999,560
SEPARATION FOR FLARE SYSTEMS
Charles L. Seefluth, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 20, 1956, Ser. No. 629,729
3 Claims. (Cl. 183—2.5)

1. An apparatus comprising in combination a horizontally disposed first vessel containing a sole horizontal screen separating said vessel into an upper section and a lower section, said vessel having at least one removal end; means for introducing gas to said vessel; separate conduit means for venting the upper section of said

vessel; means for withdrawing liquid from the lower section of said vessel; a second vessel disposed directly above and communicating with the upper section of said first vessel through a valved means; means for introducing a



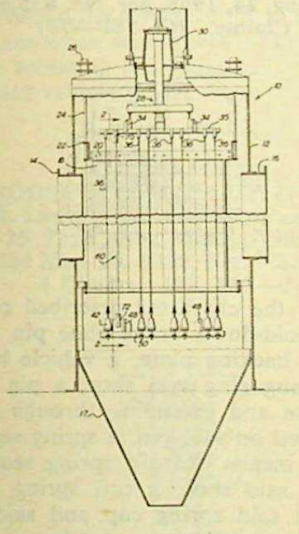
high velocity gas stream containing liquids and solids entrained therein into a lower portion of said second vessel, said second vessel being adapted for phase separation of said gas stream; and means for flaring the gas from said second vessel.

2,999,561

ELECTRICAL PRECIPITATOR APPARATUS

Joseph Phyl, Fanwood, N.J., assignor to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey

Filed Nov. 10, 1959, Ser. No. 851,993
4 Claims. (Cl. 183—7)



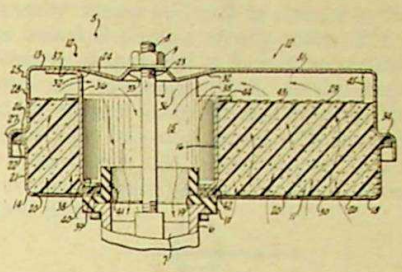
1. In an electrical precipitator having a dirty gas inlet and a clean gas outlet, a high tension frame member and a steadying frame member spaced therefrom, a plurality of discharge wires connected to and extending between said frame members and complementary extended surface collecting plates, the improvement comprising a rigid latticed trussed frame interconnecting the spaced frame members, said rigid latticed trussed frame comprising a pair of substantially rigid stays, the bottom extremity of each of said stays being connected to one of said spaced frame members, the upper extremity of each of said stays being connected to the other of said spaced frame members and a plurality of substantially rigid lattice members interconnecting said stays.

2,999,562

AIR CLEANER

Leo J. Lechtenberg, Elm Grove, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware

Filed Mar. 24, 1960, Ser. No. 17,401
7 Claims. (Cl. 183—44)



1. An air cleaner of the character described comprising: a cup-like lower housing member having an imperforate side wall and apertures in its bottom wall providing air inlet and outlet ports; a laterally outwardly projecting flange around the rim of the lower housing member, a foam plastic filter element entirely filling the lower housing member with the bottom of the element seated upon the bottom wall of the housing; an integral laterally outwardly projecting ridge extending around the perimeter of the filter element and overlying the flange on the lower housing member; the filter element having a hole therethrough in register with the air outlet port in the lower housing member; an imperforate liner in said hole in the filter element, the bottom end of the liner being contiguous to the bottom wall of the lower housing member; a cover member cooperable with the lower housing member and the filter element to constrain air entering the inlet port in the bottom wall of the lower housing member to flow upwardly through the filter element and then downwardly through said liner and the outlet port, said cover member having an imperforate top wall spaced above the top surface of the filter element and a laterally outwardly projecting peripheral flange on its lower edge which opposes the flange on the lower housing member and overlies the ridge on the filter element; and means for drawing the cover member bodily downwardly toward the lower housing member to cause the flange on the cover member to cooperate with the flange on the lower housing member in clampingly compressing said ridge on the filter to thus provide a seal between the lower housing member and the cover.

2,999,563

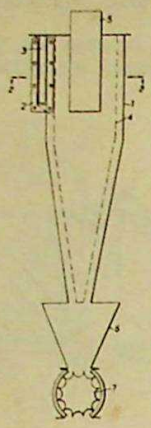
ARRANGEMENT FOR SEPARATING OUT FINE SOLID PARTICLES DISPERSED IN GASES

Julius Wehn, Leverkusen, and Hans Rumpf, Karlsruhe, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Oct. 16, 1957, Ser. No. 690,552
Claims priority, application Germany Oct. 19, 1956
5 Claims. (Cl. 183—83)

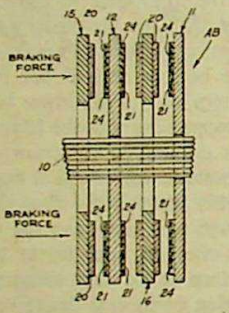
1. An arrangement for separating out fine solid particles dispersed in gases comprising a cyclone container, a cyclone element which is pervious to gas and said solid particles and which is arranged in said container at a distance from the inside wall and coextensive with respect to said inside wall, means to introduce gas into the interior of said cyclone element in whirling fashion, said cyclone element having a thickness, flexibility and mesh size such that a pulsating deformation of said

cyclone element occurs under the influence of the flow of the particle containing gas through said arrangement



and a common discharge chamber for the cyclone container and the cyclone element.

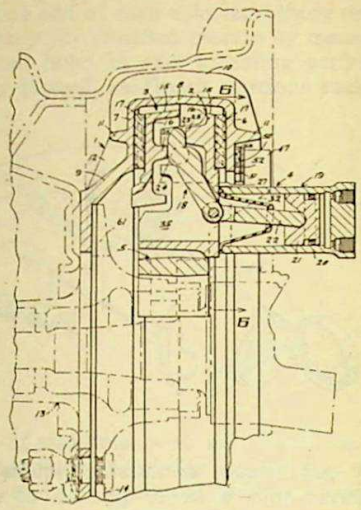
2,999,564
FRICTION COUPLES
Roswell S. Frichette, Jr., Ramsey, N.J., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1959, Ser. No. 836,155
3 Claims. (Cl. 188—71)



1. A friction couple comprising a rotary member and an opposing member, engageable one with another, one of said members being faced with a powdered metal friction element composed of nickel aluminide intermetallic bonded by and sintered with nickel metal, and containing a hard ceramic imparting enhanced wear and thermal resistance thereto, and the other of said members being faced with a powdered metal element composed of molybdenum aluminide intermetallic bonded with nickel metal and containing discrete chunks of molybdenum metal dispersed in the nickel bonded molybdenum aluminide, said facings being disposed opposite one another in the friction couple.

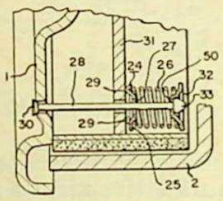
2,999,565
DISK BRAKE
Edwin R. Evans, 3215 W. Shore Drive, Orchard Lake, Mich.
Filed Mar. 7, 1956, Ser. No. 570,064
4 Claims. (Cl. 188—72)

1. In a disk brake, a rotatable member having axially spaced disks each provided with a generally radial brake surface in opposed, confronting relation to the radial brake surface of the other, an anchor, a pair of friction members supported on said anchor and movable away from each other into frictional engagement with said respective brake surfaces, a third friction member comprising an arcuate backing having friction lining thereon engageable with the side of one of said disks opposite its brake surface for retarding said rotatable member and limiting axial movement of said one disk and flexing of said rotatable member upon movement of said pair of friction members into engagement with said brake surfaces of said disks, means



for mounting said third friction member on said anchor including bosses on said arcuate backing and axial recesses in said anchor receiving said bosses, and means for fixing said bosses in said recesses with said friction lining normally spaced from said side of said one disk.

2,999,566
BRAKE SHOE SPRING
Edward J. Naudzius, Lathrup Village, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 24, 1959, Ser. No. 835,561
7 Claims. (Cl. 188—78)

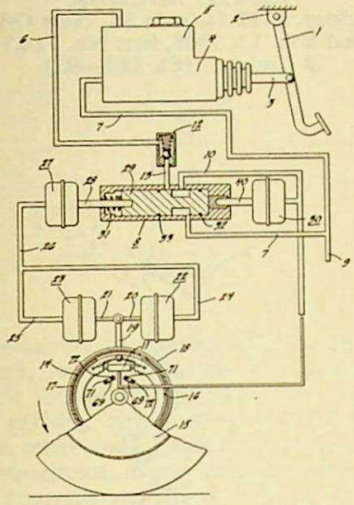


2. A device of the character described comprising in combination; a hold-down brake shoe pin assembly including a vehicle backing plate, a vehicle brake shoe, a brake drum for engaging said shoe, a pin mounted on said backing plate and extending through said shoe, a spring cap mounted on said pin, a spring seat contacting said brake shoe, means on said spring seat for limited engagement with said shoe, a coil spring compressibly mounted between said spring cap and said spring seat thereby maintaining resilient contact by said spring seat in a limited area of said brake shoe to retard heat transfer from said brake shoe to said spring.

2,999,567
VEHICLE BRAKE
Fred Adams, Clawson, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 19, 1959, Ser. No. 834,876
7 Claims. (Cl. 188—181)

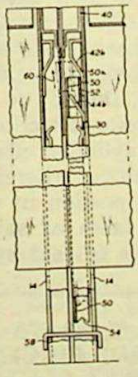
1. In a device of the character described comprising in combination, a hydraulic fluid brake actuating system including means for pressurizing fluid, a vehicle drum brake including hydraulic means for actuating said brake

in communication with said hydraulic fluid brake actuating system, a rotating brake drum connected to a vehicle wheel, a brake support member, a backing plate mounted for limited rotation on said brake support member, brake shoes mounted within said rotating drum for engagement with the inner periphery of said drum, a torque sensing means connected to said backing plate, a torque control means connected to said torque sensing means through a hydraulic means, a control valve mounted in said hydraulic fluid brake actuating system, a pressure



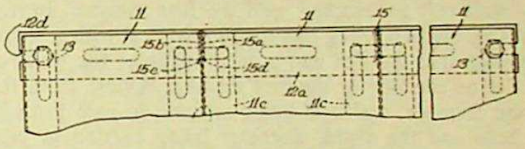
control means mounted in said hydraulic brake fluid actuating system biasing said control valve to a closed position, said torque control means biasing said control valve to a normally open position for normal brake operation when said vehicle wheel is rotating normally, said pressure control means biasing said valve to a closed position to reduce the pressure in the hydraulic brake actuating means when said wheel is skidding and thereby relieve brake actuating fluid pressure and permit normal rotation of said vehicle wheel.

2,999,568
ROOM DIVIDER PARTITIONS
Oskar R. Ludwig and Anthony Pezone, both of 64—25 72nd Ave., Middle Village, N.Y.
Filed May 26, 1960, Ser. No. 31,977
4 Claims. (Cl. 189—34)



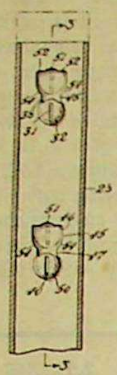
1. A partition construction of the character described, comprising a plurality of individual panel sections joined together to form a single partition, each said panel section being provided with end posts of channel shape, a locking member being disposed between the adjacent channel-shaped posts of adjoining panel sections, said locking member being movable from a position wholly within one of said channel posts to a position partly within each of said channel posts, said latter position being its locking position and the former being its unlocked position, said locking member being a channel provided with a box section at its upper end, one of said channel-shaped posts having a pair of cam faces provided thereon for engagement with said box section of the locking channel, said locking channel being movable upwardly to bring its box section into engagement with one of said cam faces, thereby causing said locking channel to be cammed from its unlocked position wholly within said last-mentioned channel-shaped post to its locking position extending across and overlapping both channel-shaped posts, said locking channel being movable downwardly to bring said box section into engagement with the second cam face in order to cam said locking channel back to its unlocked position wholly within said first-mentioned channel-shaped post.

2,999,569
PANEL CONSTRUCTION
Allen B. Wilson, Chicago, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 16, 1956, Ser. No. 571,991
2 Claims. (Cl. 189—35)



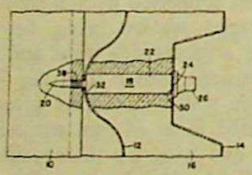
1. A structure comprising a plurality of panels, each panel having a substantially flat body portion, the adjacent edges of adjacent panels having side walls formed thereon and disposed substantially perpendicular thereto and terminating in juxtaposed free ends, inwardly directed flanges formed on each of said side walls and extending therefrom in the same direction as the associated body portion and substantially parallel thereto, and a clip interconnecting adjacent panels, said clip including two resilient arms connected by a U-shaped resilient portion, said U-shaped portion being disposed about the free ends of two adjacent side walls and having an inner maximum dimension greater than the combined thickness of said side walls, said arms pressing against the oppositely directed faces of said adjacent side walls of adjacent panels and lying flat thereagainst for the major part of the length of said arms, the edge of said U-shaped portion and the edge of the outer ends of said arms on each side of said clip lying in a common plane and the planes defined by said edges being parallel and spaced apart a distance equal to the space between said body portion and said flange, whereby portions of said arms extend between and are in contact with the associated flange and the adjacent face of the associated body portion, the ends of said arms opposite the U-shaped portion being directed outwardly away from the associated side wall to facilitate assembly therewith, said edges of said U-shaped portion of said clip and said edges of said outer ends of said arms on each side of said clip being spaced from said adjacent side walls and contacting said body portions and said flanges of said panels at points disposed outwardly of said side walls, all portions of said arms of said clip which are intermediate said U-shaped portion and said outer ends and which are in contact with said side walls of said panels being of reduced width and out of contact with said body portions and said flanges of said panels, said clip serving to hold said adjacent panels firmly together with the surfaces of said body portions lying in common planes.

2,999,570
INTERLOCK
Edward A. Seiz, 136 E. 3rd St., Lansdale, Pa.
Filed July 25, 1957, Ser. No. 674,135
3 Claims. (Cl. 189—36)



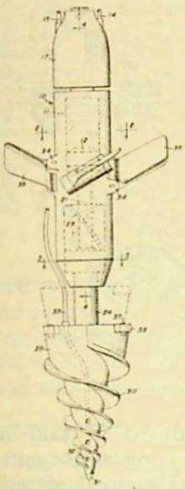
1. An interlock connection comprising a first member having a hole extending therethrough and having a slot extending down from the hole, the hole being flat at the edges of the top and recessed upwardly at a position above the slot, and a second member adapted to be interlocked with the first member, and in interlocked position positively interlocked with the first member, having a locking lug projecting therefrom provided with a shank extending into the slot and a head engaging the walls of the slot on the side of the first member remote from the second member, the head being adapted to pass through the hole and the shank diameter being carried in prolongation across the head at the top of the head to form a projection which fits into the recess above the slot, the head on either side of the projection extending straight across.

2,999,571
POWDER-ACTUATED FASTENER
Peter H. Huber, % Allied Service, N. River Drive, Hampton, Ill.
Filed Sept. 12, 1958, Ser. No. 760,703
1 Claim. (Cl. 189—36)



A powder-actuated fastener of the class described adapted to be shot into a support structure, comprising: a relatively short pin having front and rear portions of substantially similar diameters except that said front portion terminates in a forward, sharp, support-penetrating point; and a relatively longer barrel of larger diameter than the pin disposed coaxially rearwardly of the pin at the rear portion of said pin, said barrel having a front radial end and a rear radial end, said front radial end being provided with a forwardly opening coaxial bore receiving said rear portion of the pin so that the point of the pin projects a substantial distance ahead of said front radial end, said bore and said rear portion of the pin being so constructed and cooperative as to effect a joint in which the barrel becomes a rigid, rearward, diametrically enlarged extension of the pin whereby the pin and barrel effect a rigid composite preassembled fastener adapted to be fired as a unit, said front radial end of the barrel affording an abrupt annular front abutment normal to the axis of the pin and barrel and axially offset back from the point for positively abutting the support structure so as to limit penetration of the support structure by the fastener and to positively space the rear end of the barrel rearwardly from the structure according to the length of the barrel, and said barrel having at its said rear end a coaxial portion of reduced diameter for receiving a second support structure spaced from the first-named support structure by the length of the barrel and said coaxial portion being further adapted to receive a securing means.

2,999,572
EARTH ANCHOR
John D. Hinckley, 2112 Octavia St., New Orleans 15, La.
Filed Feb. 12, 1958, Ser. No. 714,741
2 Claims. (Cl. 189—91)

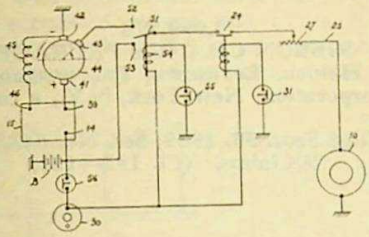


1. An anchor of the class described comprising a rotatable conical boring element having lateral helical flanges thereon, motor means for rotating said element in one direction to advance the element into soil including a cylinder element, a reciprocating piston therein having a swivel connection with said boring element, one of said elements being provided with helical ribs, the other of said elements having helical grooves cooperating with said ribs whereby upon reciprocation of said piston the boring element is rotated with respect to said cylinder element, means for supplying fluid under pressure alternately to opposite sides of said piston, means pivoted on said element engageable with the material being bored for resisting rotation of the element in the opposite direction, said pivoted means being movable out of engagement with said material and disposed in substantially tangential relation to said element when the element is rotated in said one direction and freely swingable outwardly from said element into penetrating engagement with said material when the element tends to rotate in the opposite direction, thereby to resist rotation of said element in said opposite direction, and a plurality of flaps pivoted to said cylinder element, said flaps being swingable from a position wherein they lie against the cylinder element to a postion in which they project radially outwardly, the faces of said flaps being inclined with respect to the axis of said cylinder element.

2,999,573
ELECTRIC CONTROL CIRCUIT FOR ELECTRO-MAGNET CLUTCHES
Jean Maurice and Michel Rist, Paris, France, assignors to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed Dec. 17, 1957, Ser. No. 703,422
Claims priority, application France Dec. 19, 1956
11 Claims. (Cl. 192—3.5)

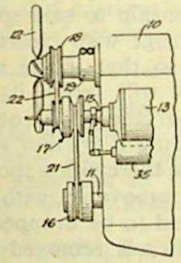
1. In an electric control circuit for an electromagnetic clutch of an automobile vehicle having an engine, driving

wheels, a dynamo having two main brushes and driven by said engine, a transmission having at least two shafts, said transmission being driven by said engine through said clutch and driving said wheels, a storage battery, a cut-out switch coupling said battery to said main brushes of said dynamo, a control coil for said clutch, an auxiliary brush disposed on said dynamo between said main brushes, connecting means for supplying power from said dynamo to said clutch control coil through said auxiliary brush, and a relay inserted in said connecting



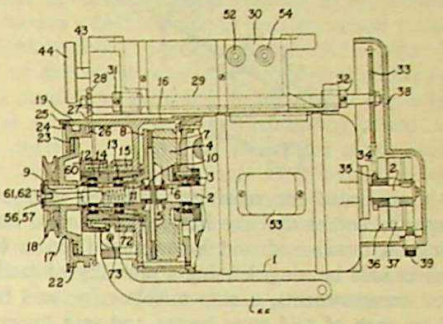
means for selectively connecting said clutch control coil to said battery, the combination with said relay of an exciting circuit for said relay, means for connecting one end of said exciting circuit to said battery, means for grounding the other end of said exciting circuit, a switch in said exciting circuit, means responsive to the speed of one of said transmission shafts, and means operatively connecting said responsive means and said switch for making the relay connecting the clutch control coil to said battery when the speed of said shaft exceeds a predetermined value.

2,999,574
VARIABLE SPEED DRIVE
Adiel Y. Dodge, % A. Y. Dodge Co., 206 S. Main St., Rockford, Ill.
Filed Oct. 12, 1959, Ser. No. 845,785
8 Claims. (Cl. 192—3.5)



1. A variable speed drive for engine accessories comprising a variable driving sheave, an accessory shaft, a variable driven sheave rotatably mounted on the accessory shaft, a belt connecting the driving and driven sheaves, means including parts responsive to the speed of the accessory shaft to vary the effective diameter of the driven sheave in a direction tending to maintain the speed of the driven sheave constant regardless of the speed of the driving sheave, a releasable clutch connecting the driven sheave to the accessory shaft, and control means responsive to the speed of the accessory shaft to release the clutch when the speed exceeds a predetermined amount.

2,999,575
DRIVE AND STOP APPARATUS FOR SEWING MACHINES
Max Schwab, Verl. Scheffelstr. 55, Schwetzingen, Baden, Germany; Olga Brunhilde Schwab, née Bonner, sole devisee of said Max Schwab, deceased
Filed Apr. 15, 1953, Ser. No. 349,061
Claims priority, application Germany Apr. 17, 1952
9 Claims. (Cl. 192—146)



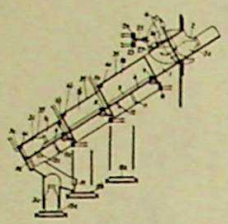
1. An electric power source for a sewing machine which enables the operator to stop the sewing machine with the needle bar in a pre-elected dead position, the said power source comprising an electric motor having an extended motor shaft, mounted on the said motor shaft a magnetic clutch comprising two adjacent elements, one of the said elements being fixedly attached to the said motor shaft while the other of the said elements is mounted to rotate freely about and to move axially on the said motor shaft in and out of operative contact with the first of the said clutch elements, a coupling frame at one side of the motor, a first coupling element fastened to the end of the said motor shaft within the coupling frame, a coupling shaft mounted within the coupling frame in line with the said motor shaft, a second coupling element mounted on the said coupling shaft to move axially on the said coupling shaft in and out of operative contact with the said first coupling element, spring tension means to keep the said second coupling element out of contact with the said first coupling element, a brake disk fitted to the said coupling shaft to move axially on the said coupling shaft, a brake drum mounted within the said coupling frame about the said brake disk, a sheave for driving the sewing machine attached to the free end of the said coupling shaft, a lever connected at one end to the foot control of the sewing machine and linked at the other end to means counteracting the spring tension and moving the said second coupling element into operative contact with the said first coupling element when the said lever is moved into one position and moving the said brake disk into operative contact with the said brake drum when the said lever is moved into the opposite position, means to rotatably connect the said brake drum to a third shaft arranged parallel to the said first named shafts, and the said third shaft to the said second element of the magnetic clutch, a stub shaft arranged parallel to the afore-named shafts and being adaptable to be operatively connected to one of the main drive shafts of the sewing machine, three power contacts arranged adjacent to the said stub shaft, three friction rings mounted on the said stub shaft in operative alignment with the said power contacts, the first of the said friction rings being adapted to supply power to the said magnetic clutch to keep it closed during the normal operation of the sewing machine, the other two of the said friction rings having circuit breaking notches axially offset against each other, and a switch connected to the foot control of the sewing machine which cuts the power passing through the said first friction ring and inserts one of the said other two friction rings in the circuit of the magnetic clutch.

2,999,576

IMPROVEMENTS IN APPARATUS FOR RECEIVING, ASSORTING AND STORING OF EMPTY MILK BOTTLES AND THE LIKE

Allan Gustaf Otto Glembring, 19-B Norra Gubberogatan, Goteborg, Sweden

Filed Jan. 16, 1957, Ser. No. 634,516
Claims priority, application Sweden Jan. 20, 1956
6 Claims. (Cl. 194—4)



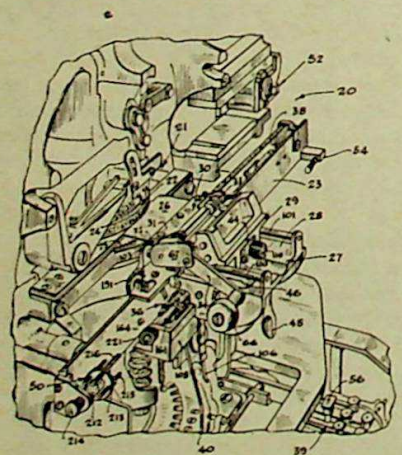
1. An apparatus for receiving, assorting and storing different size bottles and the like, comprising a housing including an intake end and a lower end, cross beams disposed in said housing defining a plurality of tandemly arranged compartments, a stop member for said bottles carried by each of said cross beams and said lower end, said housing being provided with a channel defining a guide path for movement of said bottles from said intake end to said lower end, each of said cross beams being spaced from the bottom of said channel a predetermined distance to provide respective openings of different sizes permitting further movement of said bottles towards said lower end whose diameters are smaller than said opening, so that only bottles having a diameter greater than its associated compartment opening are collected in said compartment, each of said compartments being further provided with an outlet opening, a blocking shutter disposed adjacent said opening, a catch for said shutter, releasing means for said catch actuated by its associated stop member permitting removal of said bottle through said outlet opening to a storing place.

2,999,577

EMBOSSING MACHINE

Edwin C. Colyer and George W. Brown, Willoughby, Ohio, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Dec. 5, 1958, Ser. No. 778,418
14 Claims. (Cl. 197—6.6)



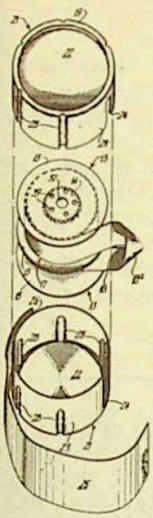
1. In an embossing machine of the kind including an embossing station and a carriage mounted for movement in co-ordinate directions with respect to said embossing station, a workholder comprising: a shaft journalled in said carriage; a first jaw member affixed to said shaft for rotation therewith; a second jaw member journalled on said shaft; biasing means urging said second jaw member toward contact with said first jaw member to grip a blank printing device or the like between said jaw members; a spur gear affixed to said shaft; a drive gear disposed in meshing engagement with said spur gear; and an operating handle connected to said drive gear for rotating said drive gear to rotate said shaft and pivot said jaw members between a normal operating position in which said jaw members are effective to grip and support a blank printing device or the like in alignment with the embossing station of said embossing machine and a loading position in which said second jaw member is separated from said first jaw member to permit replacement of the printing device.

2,999,578

RIBBON CHANGE PACKAGE

Martin P. Holden, Levittown, Pa., assignor to Underwood Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 30, 1959, Ser. No. 843,417
9 Claims. (Cl. 197—151)



1. A ribbon supply package for a typewriting or other printing machine, comprising a ribbon spool having at least one end flange, a pigmented ribbon at least partially wound on said spool, a spool cap comprising a crown contiguous to one end of said ribbon spool and a rim in surrounding relationship to said spool dimensioned to surround the spool flange with clearance therefrom and being stable enough so that if the spool cap is lightly grasped by its rim it will retain its normal form and will allow free exit of the spool out of the cap, said supply package including a portion with which said cap is associated to provide therewith a spool enclosure, means associating said cap removably with said package portion, said spool adapted to be dropped out of the rim of the cap when the latter is removed from said package portion, and means embodied in said cap to detain said spool therein at the will of the person handling the supply package, whereby the spool is adapted to be installed in position on a machine by handling its cap and whereby said cap is thereafter removable from the spool in its installed position.

2,999,579

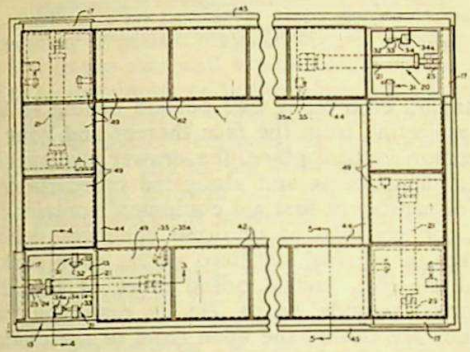
TRANSFER APPARATUS

Valerian R. Kostrzewa, 400 W. Lynn, Saginaw, Mich.

Filed Oct. 30, 1957, Ser. No. 693,477
3 Claims. (Cl. 198—19)

1. Precision indexing article transfer apparatus for precisely locating work relative to work stations comprising; frame means forming a corner; a plurality of rec-

tangular pallet members in edge-to-edge abutting relation, each having a free upper face to receive an article to be transferred around the corner; first, spaced apart, parallel, inner and outer guide rails mounted by said frame means and forming one section of said corner; second, spaced apart, parallel, inner and outer guide rails supported by said frame means and forming the other section of said corner, including an inner rail extending normally from said inner guide rail and an outer guide rail having an end aligning with the said other outer guide rail; a carriage at said corner mounted for longitudinal movement in longitudinal alignment with said second guide rails; a reciprocable assembly extending longitudinally with said second guide rails beneath said carriage and supported at one end by the interior of said frame means and at the other end connected to said carriage for moving said carriage to and fro longi-



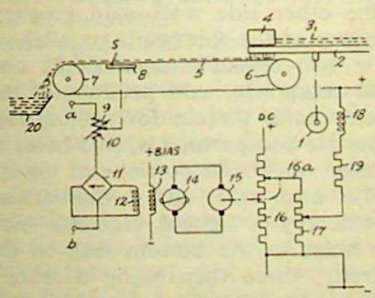
tudinally; an upstanding pusher rail fixed to the one end of said carriage forming, when the reciprocable assembly is in one position, a continuation of said outer rail of the first guide rails; parallel inner and outer, third guide rails beneath said second guide rails supported in longitudinal alignment therewith by said frame means; tongue and groove means on said third guide rails and carriage extending exactly longitudinally with said second guide rails; tongue and groove means on said first and second guide rails and pallets for maintaining, in cooperation with said tongue and groove means on said carriage and third guide rails, exact alignment of said pallets in their transfer from one section of said corner to another; and means for moving said pallets along said first guide rails with said tongue and groove means of the first guide rails and pallets in close interfitting relation to move a single pallet at a time onto said carriage and interfit the tongue and groove means of said second rails and pallet.

2,999,580

CONTROL OF FEEDING MOVEMENTS

Donald Windsor Prowse and Raymond Georges Rayden, Rugby, England, assignors to The British Thomson-Houston Company Limited, London, England, a British company

Filed May 5, 1958, Ser. No. 732,999
3 Claims. (Cl. 198—37)



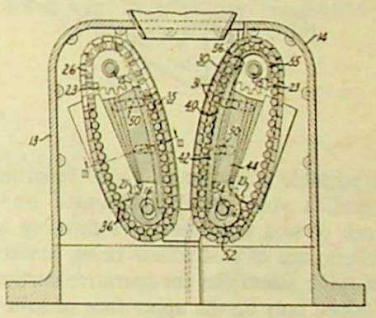
1. An electric control system for a motor driving a feeder which supplies solid particle material to an endless band type conveyor including an excitation circuit for said motor, a variable reactor having two co-operating parts at least one of which is movable and being constructed and arranged for a substantial relative displacement for changing the reactor inductance, a measuring means having a member arranged to be displaced in accordance with the weight of material carried on a predetermined portion only of said band type conveyor, said movable one of said two reactor parts being mechanically connected to said measuring means member and movable in accordance with movements of said member, an amplidyne generator having a field winding, a rectifier, means connecting said amplidyne field winding through said rectifier to the output of said variable reactor for control of the voltage of said amplidyne generator responsive to the weight of material as determined by said measuring means, a D.C. source, means for connecting said feeder motor excitation circuit for energization by said D.C. source, a variable impedance in said excitation circuit having a control member, and a positioning motor energized by said amplidyne generator and mechanically arranged to position said variable impedance control member for maintaining the desired feeding rate of material to the conveyor.

2,999,581

ENDLESS TRACK ASSEMBLY

Robert T. Baugh, Brookfield, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

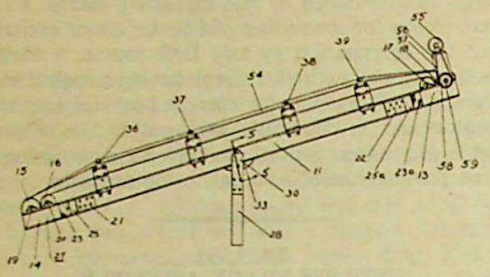
Original application Aug. 15, 1956, Ser. No. 604,223, now Patent No. 2,959,364, dated Nov. 8, 1960. Divided and this application Mar. 10, 1958, Ser. No. 720,252
2 Claims. (Cl. 198—165)

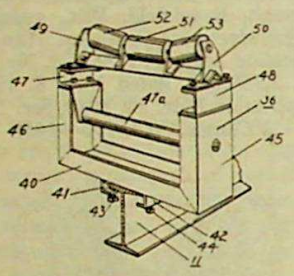


1. In a combination comprising: a frame; a pair of vertically spaced substantially parallel rotatable shafts mounted in said frame for rotation relative thereto; sprocket wheels journaled upon each of said shafts at the outer extremities thereof adjacent and within said frame to provide a first and second pair of wheels respectively adjacent each side of said frame; a pair of endless chains mounted for movement with one another, one of said chains being reeved about said first pair of wheels and the other of said chains being reeved about said second pair of wheels; a plurality of tread plates connecting corresponding portions of said chains and cooperating therewith to define a substantially continuous bearing surface for movement with said chains; a convexly contoured support means mounted to said frame intermediate said shafts for holding said bearing surface to a convex contour during loading thereof and for receiving the forces of loading from said bearing surface and solely and directly transferring said forces to said frame without loading said shafts; and antifriction load transmission means interposed between said bearing and said support means in circumscribing relationship to said support means, said support means comprising: a mounting plate having a body portion secured to said frame intermediate opposed runs of said bearing surface and a depending portion, said depending portion having an elongated bore defined therethrough and disposed in spaced circumscribing relationship about the lowermost of said shafts, said body portion

having a force receiving surface in facing relationship to the working portion of said bearing surface, a support shoe mounted to said force receiving surface intermediate said surface and said antifriction load transmission means and extending upwardly beyond said surface to an end, and arcuate guide means secured to said end and extending upwardly therefrom into spaced shielding relationship about the uppermost of said shafts.

2,999,582
BELT CONVEYORS
Le Roy F. Ramer, 700 Dumont, Richardson, Tex.
Filed Apr. 13, 1959, Ser. No. 805,942
4 Claims. (Cl. 198—192)

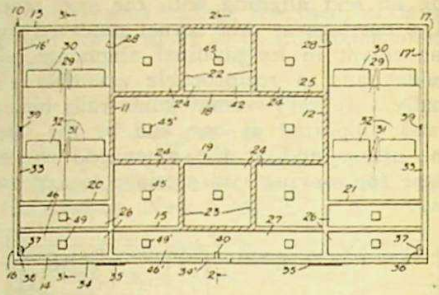




1. In a portable conveyor, a single longitudinal supporting beam, a yoke member mounted on each end thereof, each of said yoke members carrying a plurality of yoke rollers, one of said rollers being power driven, a plurality of roller assemblies the operative portions thereof being positioned only on the upper face of said longitudinal beam, said roller assemblies being slidable in relation thereto, an endless belt threaded about each of the outermost yoke roller members, thence inwardly through the aforesaid roller assemblies, one portion of said belt riding within said roller assemblies, and one portion of said belt riding above said roller assemblies, the portion above said roller assemblies being cupped to carry material and the like, said belt being operative in a plane above said supporting member.

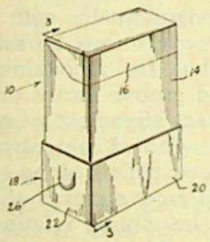
2,999,583
PORTABLE FIRST AID CABINET
Louis P. Mancini, 129 Braidburn Road, Florham Park, N.J.
Filed July 30, 1959, Ser. No. 830,488
3 Claims. (Cl. 206—12)

1. A portable first aid cabinet of the class described comprising an oblong rectangular plastic casing defined by a back wall, top, bottom and side walls and a plurality of longitudinally spaced vertical and horizontal partitions, at least two of the vertical partitions extending the full depth of the cabinet, said partitions dividing the casing into a plurality of longitudinally and vertically spaced drawer compartments, the front of the casing being open, the partitions terminating at the open front of the casing in a common vertical plane, said compartments being of varied cross-sectional contours, drawer elements arranged in said drawer compartments, said drawer elements having front wall portions conforming to the cross-sectional contour of the compartments in which they are arranged, said front wall partitions lying in a common plane spaced inwardly of said common vertical plane, each drawer element also including a bottom and back wall, a sectional portion of the cabinet having two spaced sets of three compartments, each all of the same cross-sectional contour, said spaced sets of compartments being fully divided and spaced by one elongated



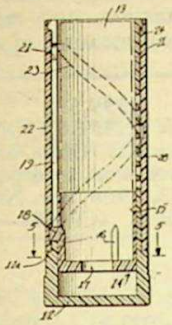
compartment, each front wall portion having an integral handle projecting from the face thereof and lying within said common vertical plane, the drawer elements in said sets of compartments and elongated compartment controlling dispensing of first aid equipment contained therein such, for example, as sterilized bandages, cotton, adhesive tape, band aids, sterilized gauze, swab sticks, scissors and the like, and standard types of remedies for treatment of wounds, burns, etc. in rendering first aid, and a door for closing the open front of the casing.

2,999,584
COMBINATION CIGARETTE PACKAGE AND ASH RECEIVER
Alice M. Gillespie, 360 E. 234th St., Bronx, N.Y.
Filed Oct. 26, 1959, Ser. No. 848,817
1 Claim. (Cl. 206—41)



A combined cigarette package and ash tray, comprising a closed rectangular-shaped paper container with cigarettes enclosed therein, a box-like hollow lightweight metal open-top receptacle removably mounted on one end of the container, and a channel-shaped lined member fitted in said receptacle, said liner member having a flat rectangular bottom wall and upstanding side walls, said side walls having grooves therein extending transversely parallel to the bottom wall, the groove in one side wall being spaced further from said bottom wall than the groove in the other side wall, said grooves facilitating bending portions of the side walls parallel to the bottom wall to form two closed compartments one above the other in said receptacle, said portions of the side walls having circular holes therein for passing cigarette ashes into the respective compartments, said holes being aligned with each other when said portions of the side walls are bent parallel to each other and to the bottom wall in the receptacle, whereby a lighted cigarette may be passed through the holes to the bottom wall to extinguish the lighted cigarette, there then being a space defined between the upper bent portion of said one side wall and the open top of the receptacle defining a tray to support therein the container of cigarettes.

2,999,585
PLASTIC LIPSTICK CASING
Eric G. Hultgren, Bridgeport, Conn.
Filed July 20, 1960, Ser. No. 44,197
5 Claims. (Cl. 206—56)



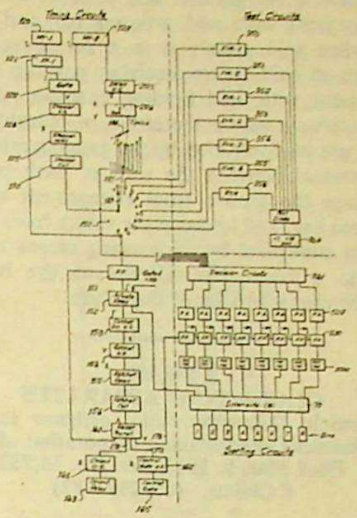
1. A plastic lipstick container comprising an inner cylindrical member of plastic material having a straight longitudinal slot in the side wall extending parallel to the axis thereof to an open outer end of the member, a lipstick carrier of plastic material comprising a one-piece, cup-shaped member slidably engaging the inner surface of the cylindrical member and having an integral button projecting therefrom and through said slot, and an operating sleeve of plastic material mounted on the outer surface of the member solely for relative rotation thereon and having an internal helical groove receiving the end of the button and cooperating therewith for moving the button of the carrier along the longitudinal slot in response to relative rotation between the sleeve and inner member, said inner member having a plurality of vent openings in the wall opposite the longitudinal slot arranged to form a venting means extending for a substantial distance along the member intermediate the ends thereof to facilitate movement of the lipstick carrier and a lipstick carried thereby along the inner member.

2,999,586
FRACTIONATION OF ALUMINA HYDRATES
Carl D. Keith, Munster, Ind., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Aug. 3, 1955, Ser. No. 526,332
5 Claims. (Cl. 209—5)

1. The method of fractionating minute solid particles of alumina hydrates containing trihydrate which comprises mixing an alumina trihydrate composition of random particle sizes with water, acidifying the mixture to obtain an acidic aqueous slurry of said alumina hydrate solid particles in the acidified aqueous medium, settling the mixture, and separating a fraction containing crystalline particles of different size distribution than in the alumina trihydrate composition acidified.

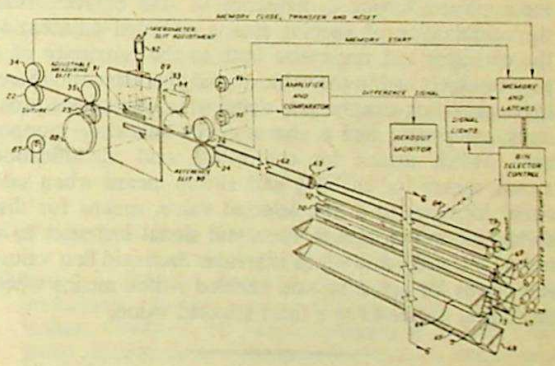
2,999,587
AUTOMATIC DIODE SORTER
Richard A. Campbell, Los Angeles, Calif., assignor to Pacific Semiconductors, Inc., Culver City, Calif., a corporation of Delaware
Filed Aug. 12, 1957, Ser. No. 677,525
22 Claims. (Cl. 209—73)

1. An apparatus for automatically segregating a plurality of unilaterally conducting electronic devices in accordance with certain predetermined direct current characteristics comprising: means for selectively individually presenting said devices to a test station at which the devices are held motionless in a predetermined position; means for serially performing at least two predetermined direct current electrical tests upon said devices in said test station, each test being of a different electrical parameter of said devices; and means for automatically discharging said devices from said test station and segregating said devices in response to said tests into at least two groups in response to said direct current tests, said two groups



being of a different predetermined preference in accordance with the number of tests each device satisfies.

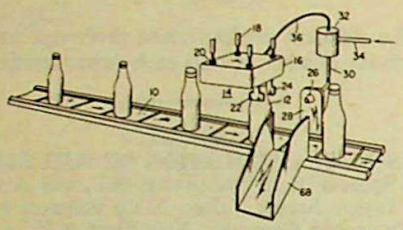
2,999,588
SIZE CLASSIFICATION OF SUTURES
George Spencer Bott, Westwood, N.J., and Arthur Sinclair Taylor, Spring Valley, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Aug. 29, 1960, Ser. No. 52,636
12 Claims. (Cl. 209—74)



1. Apparatus for classifying sutures according to predetermined diameter classification limits which comprises, in combination: guide means to control the path of a suture, at least a pair of entrance feed rolls and a pair of faster feed rolls, the rolls of each pair having parallel axes, and having at least a circular part of each of the four rolls of an electrically conductive material, means to hold each pair of rolls in juxtaposition under sufficient loading to be in electrical contact when the rolls of the pair are not separated by a suture between them, the said pairs of rolls being mounted with all rolls tangent to the path of the suture, means to determine when each pair of rolls is in electrical contact and when each pair of rolls is separated by a suture, means to drive the entrance feed rolls, means to drive the faster feed rolls at a faster surface speed than the driven speed of the entrance feed rolls and to thereby keep the suture stretched while between the two pair of rolls, at least one of said drive means permitting slippage with respect to the suture; a gauging zone between the entrance feed rolls and the faster feed rolls, gauging means functioning through said gauging zone; a holding chamber, said guide means being coaxial with and serving to direct the suture into the holding chamber after the suture has passed the

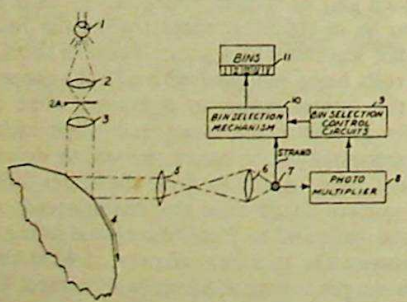
said rolls and gauging zone; a rotatable bar having a groove therein parallel to the axis of the bar, a resilient faced rotatable bar parallel and adjacent to and in sealing engagement with said grooved bar and sealing the groove when said groove is in a suture-receiving position, when in said suture-receiving position said groove being coaxial with said holding chamber and in position to receive a suture therefrom, a plurality of suture bins, and means controlled by the gauging means and the electric contact between the rolls of each pair of rolls to disengage the groove from engagement with the resilient faced bar, and to dump the suture from the groove, and means controlled by the gauging means to direct the suture into a suture bin selected on the basis of the gauged size characteristics of the suture.

2,999,589
CLASSIFYING APPARATUS
Alan Norwich, Delaware, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Mar. 9, 1960, Ser. No. 13,752
6 Claims. (Cl. 209—82)



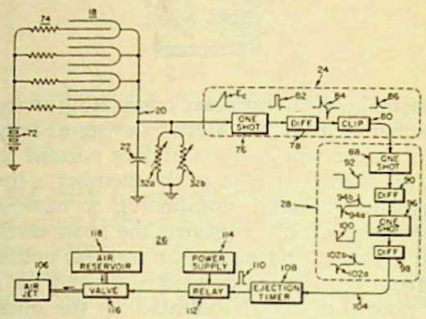
1. In an apparatus for automatically inspecting a series of conveyor-borne objects for a physical characteristic, said apparatus having means for selectively identifying those objects having a deficiency in said characteristic, the combination of gauging means mounted adjacent to the conveyor and responsive both to the proximity of a passing object and to the value of said characteristic therein for providing an aggregate signal which includes a proximity component and a characteristic-indicative component, switch means for controlling said identification means, means for enabling said switch means when said signal increases to a first selected value, means for disabling said switch means when said signal increases to a second selected value which is greater than said first value, and means for actuating said enabled switch means when said signal decreases to a third selected value.

2,999,590
MINIMUM DIAMETER MEASUREMENT BY DIGITAL FLYING SPOT SCANNER
Gerard E. Gerhardt, Plainfield, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Aug. 29, 1960, Ser. No. 52,642
10 Claims. (Cl. 209—82)



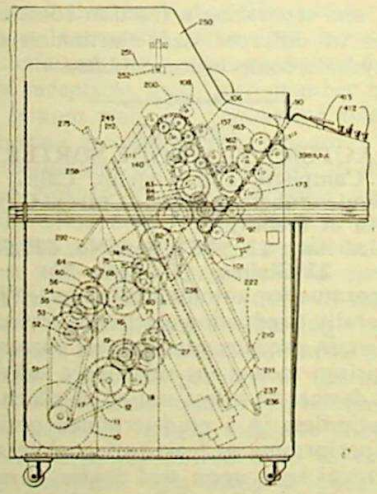
1. A device for measuring the diameter of a strand which comprises: means to scan a light beam across a strand at a known rate, and thereby intercept said light beam over a period of time which is a function of the strand diameter, light sensitive means to convert the period of light beam interception into an electrical signal, a generator of high frequency electric pulses, means controlled by said electrical signal to transmit the said high frequency electrical pulses during said period of light beam interception, means to count said pulses, during said period of transmission, and means to readout the count of said pulses as a measure of strand diameter.

2,999,591
CONTAINER INSPECTION SYSTEM
Jack G. Crump, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Oct. 23, 1958, Ser. No. 769,161
6 Claims. (Cl. 209—82)



1. In a measuring system for determining at least one physical property of a plurality of spaced containers traveling at a substantially constant rate, apparatus comprising a transducer defining an inspection path across the path of said containers for generating a signal proportional to said physical property, means connected to said transducer for integrating said signal, means for enabling said integrating means whenever a container reaches a first position in said inspection path, and means for disabling said integrating means when said container reaches a second position in said inspection path to confine said time interval of signal integration to a period of time less than that required for said container to transit said inspection path.

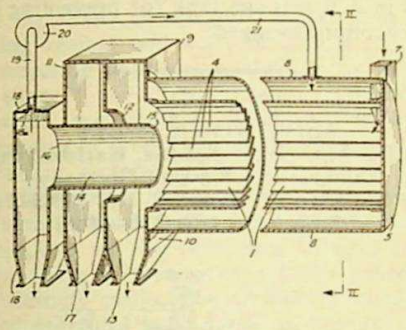
2,999,592
MANUALLY CONTROLLED RECORD SORTING MACHINE
Samuel Brand, Binghamton, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 9, 1955, Ser. No. 487,089
19 Claims. (Cl. 209—122)



1. In a sorting machine, the combination of a carriage carrying a sorting tray having a group of compartments

demarcated by separable partition plates, feeding means for feeding records to selected compartments, a plurality of keys, one for each compartment, means under control of said keys and said partition plates and operable in accordance with the last compartment selected for moving said carriage in either of two directions to operatively associate a selected compartment of the tray with the feeding means, selective means controlled by said keys for determining in accordance with the key utilized which direction said carriage is to be moved to correlate the selected compartment with the record feeding means, and means for separating adjacent partition plates to form a record receiving compartment.

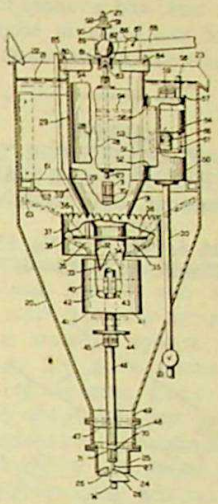
2,999,593
CLASSIFICATION OF MATERIALS
Hans Stern, 17 Morris Crescent, Springs, Transvaal, Union of South Africa
Filed Nov. 4, 1957, Ser. No. 694,418
Claims priority, application Union of South Africa Nov. 12, 1956
6 Claims. (Cl. 209—144)



1. Apparatus for the classification of materials and for the breaking down of agglomerations of particles into separate fractions of varying respective physical properties comprising an elongated whirl chamber of circular cross section having a longitudinal axis of substantial length relative to said cross section and having a plurality of entrant apertures distributed around the entire periphery and extending substantially along the length thereof, said entrant apertures being closely spaced and tangentially disposed to permit tangential entry of a practically undivided fluid stream of peripherally uniform pressure into the whirl chamber which is closed at one end by an end wall and completely open at the other end to provide a discharge outlet; draft inducing means introducing air into the whirl chamber through such entrant apertures; an inlet for raw materials being provided towards the closed end of said whirl chamber and receiving means at the other end of the whirl chamber for receiving the fractions, there being no material impediment to fluid flow in an axial direction from the whirl chamber into the receiving means.

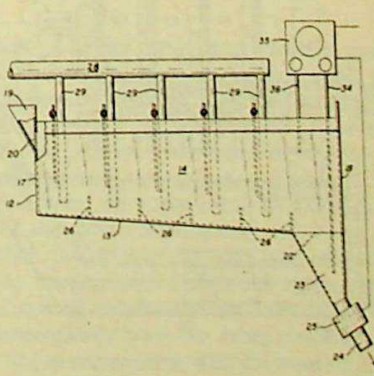
2,999,594
DISCHARGE MECHANISM FOR SAND CLASSIFIERS
Eric P. Thamme, 58 Clinton Ave., Farmingdale, N.Y.
Filed May 27, 1959, Ser. No. 816,182
11 Claims. (Cl. 209—162)

1. A material discharge valve construction comprising in operative combination a receptacle for material to be classified by settling, having a valved under-flow outlet and an upper overflow outlet; a control tank extending above said receptacle overflow weir and draining through a conduit leading to the atmosphere; a conduit leading from the lower control tank into the receptacle, providing communication with same and having umbrella like means above its lower limit co-operative with material accumulated in the receptacle to variably restrict flow into said control tank through said lower conduit and through a column of suspension therein; a float located in said control tank; a tubular valve stem connecting said float to a valve closing the under-flow outlet whereby operation of the valve is effected by variation of level in the control tank; an auxiliary control tank fastened on said main control tank and communicating



with same through a connecting passage; an adjustable and valved auxiliary inlet pipe located below overflow level; an auxiliary float located in said auxiliary control tank; an inlet valve operated by said auxiliary float whereby the water level in said main control tank is automatically controlled; a vent-pipe extending upwardly from said umbrella-like means; a sealed, tubular enclosure concentric with said tubular valve stem; and an under-flow-rate limiting adjustable stop and closing mechanism engaging said valve stem on top of said control tank.

2,999,595
APPARATUS FOR FLOTATION CONCENTRATION IN COARSE SIZE RANGE
Edmund A. Schoeld, Carlsbad, N. Mex., Jack D. Nabors, Saskatoon, Saskatchewan, Canada, and Joseph S. Reiter, Carlsbad, N. Mex., assignors to Potash Company of America, Carlsbad, N. Mex., a corporation of Colorado
Original application July 2, 1956, Ser. No. 595,500, now Patent No. 2,931,502, dated Apr. 5, 1960. Divided and this application Sept. 8, 1959, Ser. No. 838,544
5 Claims. (Cl. 209—170)



1. An elongated tank for pulp of substantial depth, having a feed inlet at one end, a concentrate overflow along at least one side wall positioned lower than other walls of said tank, and a lower discharge outlet at the opposite end of the tank, said inlet and outlet determining a

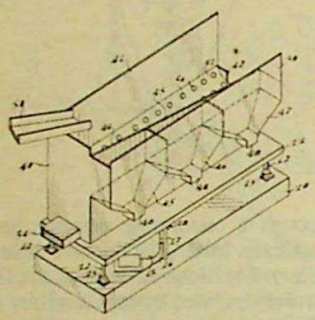
liquid level at an elevation substantially higher than said concentrates overflow, means disposed at intervals lengthwise of said tank for directing streams of brine and aerating gas in downwardly sweeping movements toward the bottom of said tank for aerating and floating concentrate material of the pulp and for moving non-floating solids of said pulp in a progressive flow from inlet to outlet, and a control mechanism for said discharge outlet, including means for measuring pressures indicative of pulp density in an upper portion and a lower portion of the outlet end of said tank, and arranged to change the discharge capacity of said outlet in accordance with the pressure differential of said measurement.

2,999,596

METHOD AND APPARATUS FOR THE SEGREGATION OF PARTICULATE MATERIAL

Archibald B. Dunwody, 2640 Peachtree Road NW., Atlanta, Ga.

Filed Oct. 6, 1955, Ser. No. 538,931
3 Claims. (Cl. 209—467)



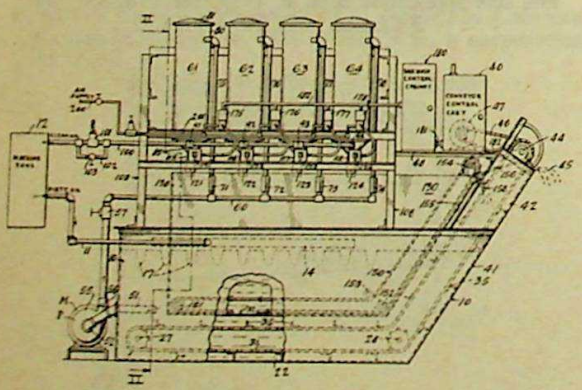
1. A separating apparatus including a trough of generally U-shaped cross section, means for feeding material to be separated to said trough, fluid flow means for stratifying said mass, and means for vibrating said trough with both longitudinal and transverse components of motion to produce spiral motion of particles of said material, said trough being bounded by at least one wall of varying longitudinal height below that of the opposed wall.

2,999,597

BACKWASH FILTERING SYSTEM

Harold H. Harms, 1404 Palmetto St., Toledo 6, Ohio

Filed Aug. 5, 1958, Ser. No. 753,244
15 Claims. (Cl. 210—333)



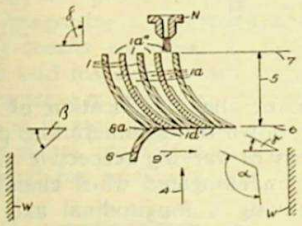
9. A backwash liquid filtering system comprising: a settling tank, a plurality of filtering chambers, an inlet manifold connected to all of said filtering chambers, separate inlet valves in said inlet manifold to each chamber, an outlet manifold connected to all of said chambers, pump means to apply liquid pressure of settled liquid from said settling tank to said inlet manifold and through at least some of said filtering chambers to said outlet manifold, additional separate outlet ducts connected to each filtering chamber, discharge valves in each said separate outlet duct, means for connecting each inlet manifold valve with its corresponding outlet duct discharge valve for the same filtering chamber whereby the opening of one valve closes the other and vice versa, and means for selectively operating said connecting means to close an inlet manifold valve and open its corresponding outlet duct valve whereby liquid pressure from said other filtering chambers forces filtered liquid into the outlet of said chamber with the closed inlet valve to backwash the filter in said chamber through its now open discharge outlet duct, and means for recirculating the resulting backwash liquid from said filtering chamber into said system through said settling tank, said recirculating means comprising a seepage tank for receiving said backwash liquid from the discharge outlet ducts of said filtering chambers, said seepage tank having at least one seeping aperture near its bottom immersed in said settling tank to permit the non-turbulent flow of backwash liquid from said seepage tank into said settling tank, and movable means in said seepage tank for preventing said aperture from becoming clogged.

2,999,598

SIEVE STRUCTURES

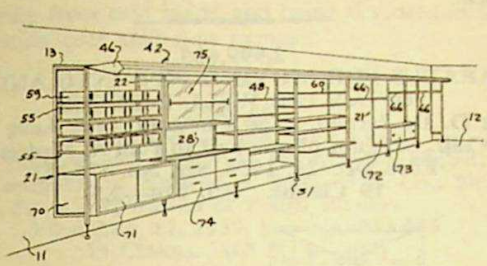
Harald Joachim Georg Schade, Karlsbaderstrasse, Michelbach, Nassau, Germany

Filed Mar. 6, 1958, Ser. No. 719,522
10 Claims. (Cl. 210—488)



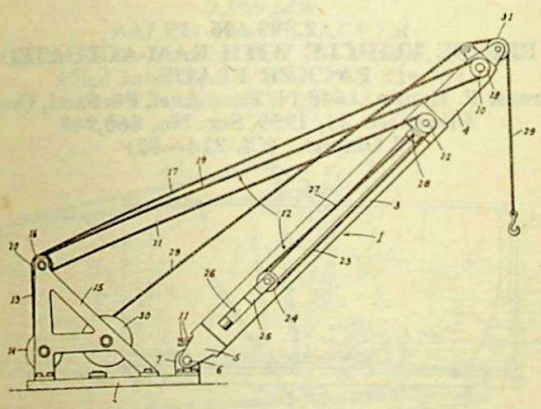
1. A sieve for straining fluid media comprising a plurality of continuously bent laminations stacked in spaced relation to form a plurality of continuously bent fluid passages therebetween; said laminations being shaped to define passages having relatively narrow inlets and relatively wide outlets and progressively increasing in cross-section from said inlets to said outlets; said inlets being situated in a joint inlet-plane and said outlets being situated in a joint outlet-plane; each of said laminations enclosing at the inlet-plane-end thereof an angle with said inlet-plane different from the angle enclosed between each of said laminations at the outlet-plane-end thereof with said outlet-plane, said first mentioned angle being less than said last mentioned angle; the inlet-plane ends of said laminations being relatively free and the ends of said laminations adjacent said outlet-plane being clamped together by clamping means projecting transversely through said laminations; and means for removing foreign matter from the inlet-plane-end of said passages, said removing means including a scraper including a scraper edge and a blade, said edge being situated in said inlet-plane and said blade being shaped in such a fashion that each cross-section thereof taken along a section-plane at right angles to said inlet-plane is generally symmetrical with respect to said inlet-plane to a cross-section taken along said section-plane of the nearest end of one of said laminations, and said removing means further including means for moving said scraper relative to said narrow inlets in the direction of the curvature of the inlet-plane-ends of said laminations.

2,999,599
DISPLAY SHELVING
Sydney W. Jentzen, Bloomfield Township, Mich., assignor to Jentzen-Miller Company, Royal Oak, Mich., a corporation of Michigan
Filed Sept. 2, 1958, Ser. No. 758,194
9 Claims. (Cl. 211—90)



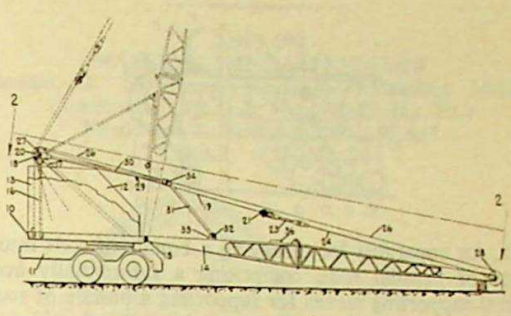
1. In combination with a floor and wall, a pair of parallel spaced upright forwardly extending struts arranged at right angles to said wall, each strut consisting of an upright tubular channel support parallel to and spaced forwardly of said wall, means at its lower end resting on the floor, an upright tubular body above the floor bearing against said wall, horizontal tubular braces fixedly connecting upper and lower ends of said body with said support, the front surface of said body having formed therein throughout its height a series of vertically spaced apertures, a bracket securing the top of each strut to said wall, a rectangular horizontally disposed shelf removably interposed between said pair of struts and including a rectangular frame, and rearwardly extending notched brackets on the rear ends of said frame, each bracket including a pair of vertically spaced notched fingers retainingly projected and nested within an adjacent pair of apertures in an adjacent pair of strut bodies respectively.

2,999,600
COMPENSATING TELESCOPIC BOOM
Earl Gates, 1117 14th St., Santa Rosa, Calif.
Filed Sept. 4, 1959, Ser. No. 838,248
6 Claims. (Cl. 212—55)



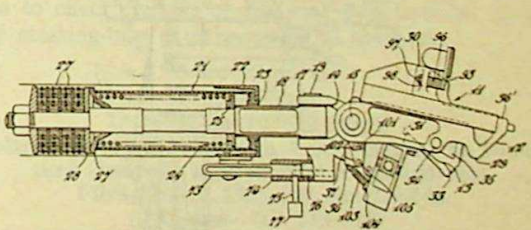
1. In a crane, a mounting deck, a boom upstanding from the deck at an angle to the perpendicular, the boom comprising upper and lower sections mounted together for relative telescopic movement, means connecting the boom sections for extending and contracting the same, the lower section being mounted on the deck, and a boom supporting structure connected between the deck and both boom sections adjacent their upper ends at an acute angle to said sections and including automatically functioning means incorporated therewith so that the said angle of the boom will remain unchanged with any extending or contracting movement of the upper boom section relative to the lower boom section.

2,999,601
HINGED BOOM STOP
George W. Mork, South Milwaukee, Wis., assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Filed Nov. 10, 1958, Ser. No. 773,076
6 Claims. (Cl. 212—59)



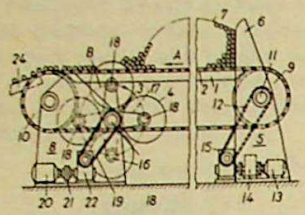
1. In a load-handling machine having a main frame, including an elevated portion, and a boom pivotally mounted on the main frame for movement in a vertical plane, means for arresting upward movement of the boom, comprising: first pivot means mounted on the elevated portion of the main frame; first strut means, connected at one end to said first pivot means; second pivot means, mounted on the boom; second strut means, connected at one end to said second pivot means; third pivot means, interconnecting said first and second strut means adjacent their other ends; the respective effective lengths of said first and second strut means and the locations of said first and second pivot means being such that, when the boom is in a predetermined elevated position, at least one of said strut means engages a portion of the boom above said second pivot means.

2,999,602
COUPLING DEVICE FOR RAILWAY VEHICLES
Peter S. MacGregor, Poole, and Anthony J. J. Keeley, Broadstone, England, assignors to Flight Refuelling Limited, near Blandford, Dorset, England
Filed Sept. 10, 1959, Ser. No. 839,125
8 Claims. (Cl. 213—97)



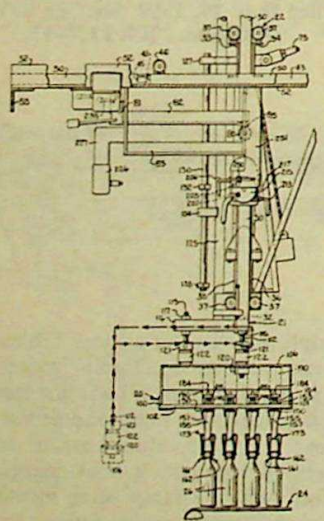
1. A coupling device for railway vehicles comprising a coupling unit mounted for turning movement in a horizontal plane and including a hook for turning movement in a vertical plane and a ramp disposed at one side of the hook to lead a corresponding hook of another coupling unit into engagement with a hook-engaging part on said first coupling unit, the ramp being movable as one with the hook of the same coupling unit and a trip device being provided for lifting the said corresponding hook clear of the hook-engaging part; the combination therewith of a locking mechanism on each coupling unit to engage automatically with the other coupling unit when the hooks are in engagement with the hook-engaging parts and prevent the said hooks from being disengaged, each said locking mechanism comprising a pivotally mounted latch arm having an opening at one end and a slidably mounted bolt adapted to enter the opening of the complementary coupling device, and resilient means normally urging each bolt toward locked position.

2,999,603
APPARATUS FOR ARRANGEMENT OF RODS
Oscar Josef Smejda, Nydalen, Oslo, Norway, assignor to Christiania Spigerverk, Nydalen, Oslo, Norway
Filed May 13, 1960, Ser. No. 29,081
Claims priority, application Norway May 15, 1959
8 Claims. (Cl. 214—1)



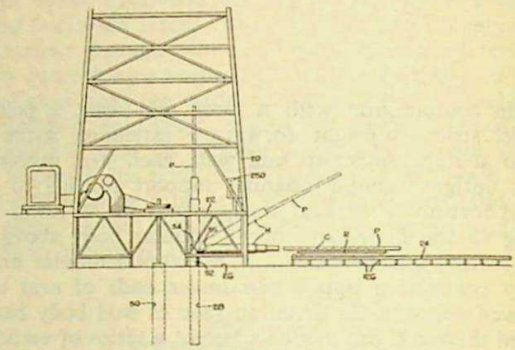
1. An apparatus for arranging a bundle of rods into a layer of parallel rods, comprising a substantially horizontal supporting means for supporting a bundle of rods, support members supporting opposite ends of said supporting means, a carrier rotatably mounted below said supporting means, a cylindrical body freely rotatably mounted on said carrier in such a distance from the axis of the carrier that when the axis of the cylindrical body during rotation of the carrier is in a position vertically above the axis of the carrier, the uppermost part of the said cylindrical body will project above the level of the undermost rods in a bundle of rods resting on said supporting means, means connected to said carrier for rotating the carrier and means for moving a bundle of rods placed on said supporting means in parallel with the axis of the carrier and said carrier in parallel horizontal directions relatively to each other.

2,999,604
APPARATUS FOR TRANSFERRING ARTICLES
Charles Chalich, Salisbury, N.C., assignor to Taylor Manufacturing Company, Inc., Salisbury, N.C., a corporation of North Carolina
Filed Nov. 13, 1957, Ser. No. 696,087
15 Claims. (Cl. 214—1)



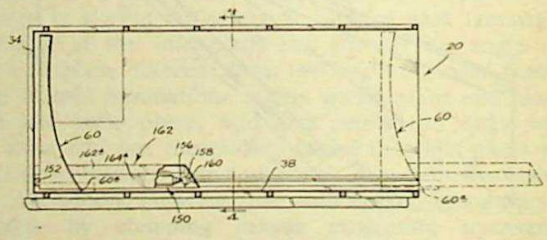
1. An article-engaging device comprising a pair of gripper elements, a rigid support, bendable flexible members suspending each gripper element from the support and holding the elements in downwardly and outwardly inclined relationship, and means to move said elements inwardly into clamping engagement with an article therebetween, said means comprising a substantially channel-shaped body including opposed flanges and a connecting web therebetween, said web being interposed between the gripper elements and said support and said flanges being disposed outwardly of said gripper elements, a plunger connected to said web, and means to impart axial movement to said plunger; said flanges being movable into straddling engagement with the distal surfaces of said gripper elements in response to downward axial movement of said plunger to effect inward movement of said elements for gripping an article therebetween.

2,999,605
APPARATUS FOR MOVING PIPE INTO AND OUT OF AN OIL WELL DERRICK
Frank D. De Jarnett, 2150 Chestnut Ave., Long Beach, Calif., assignor of one-half to Paul A. Medearis
Filed Dec. 20, 1954, Ser. No. 476,363
19 Claims. (Cl. 214—2.5)



1. Apparatus for handling sections of pipe in the region of an elevator-equipped oil well derrick, including: an upright excavated shaft below the derrick floor; a hinged elongated holder to surround one end of a pipe section at least at its hinged position along its length, said holder being pivoted from one end for movement between a prone position adjacent said shaft and an upright position in substantial alignment with the shaft for lifting a pipe section from prone position to upright position to cause the lifted pipe section to drop longitudinally into the shaft, said shaft being of an effective depth to place the upper end of the dropped pipe section in a position accessible for engagement by the elevator; and power means to move said holder between its two positions.

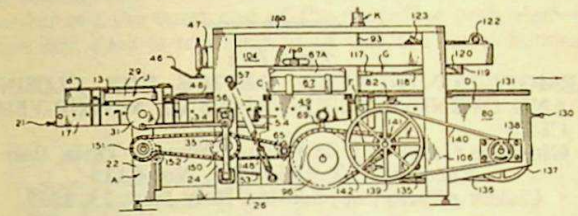
2,999,606
REFUSE VEHICLE WITH RAM-ACTUATED PACKER BLADE
Ernest F. Kamin, 1648 N. Ross Ave., Portland, Oreg.
Filed Dec. 21, 1959, Ser. No. 860,949
7 Claims. (Cl. 214—82)



1. In a refuse-collection vehicle comprising an elongated substantially rectangular hollow body with forward and rear ends and including a floor and side walls, and a packer blade extending transversely of and substantially straight across said body with ends adjacent said side walls and a bottom edge adjacent said floor, said blade being movable in a path longitudinally of said body between a retracted position adjacent the forward end and an extended position adjacent the rear end of said body, the improvement comprising means adjacent each end of the blade near its bottom edge for guiding the blade in its path, fluid-operated ram means substantially parallel to said floor and extensible substantially

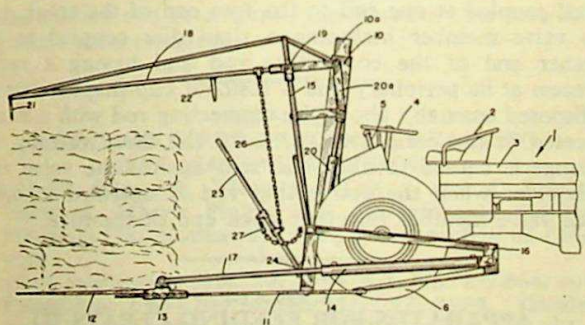
the entire length of said body disposed above and close to the floor of said body operatively connected between the forward end of said body and said blade and extending rearwardly of the bottom edge of the blade for moving the blade in its path, and elongated cover means extending longitudinally of said body joined to said blade for movement with the blade, said cover means extending rearwardly from said blade and being disposed in shielding relation over said ram means.

2,999,607
SHIPPING CASE OPENER
Henry Tancredi and Frederick W. Kulicke, Philadelphia, Pa., assignors to Kulicke & Soffa Mfg. Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 11, 1959, Ser. No. 833,006
15 Claims. (Cl. 214—304)



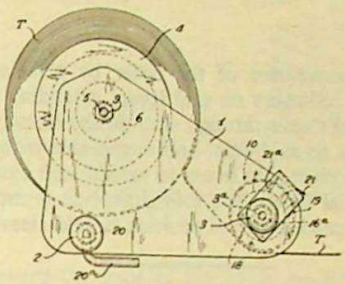
1. A machine for automatically opening flaps on shipping cases comprising in combination, a frame, a carriage vertically reciprocable in said frame, conveyor means forwardly urging the cases in a longitudinal path of travel through said carriage, a gate arresting the forward progress of the cases when said carriage is in lowered position, tripper means responsive to the advancement of each case against said gate reciprocating said carriage to successively discharge one case in the elevated position thereof, a horn medially disposed in the path of travel of the elevated cases discharged from said carriage, said horn initially engaging the upper leading edge of each successively discharged case immediately below the closed level of the flaps thereof and thereafter flaring open the flaps as the carriage descends, and a terminal conveyor advancing the opened cases longitudinally past and below said horn.

2,999,608
BALED HAY STACKER
Charles de Ganahl, Box 75, Yampa, Colo.
Filed July 27, 1959, Ser. No. 829,704
9 Claims. (Cl. 214—654)



1. A mobile, baled-hay stacker comprising in combination with a self-propelled tractor, an elevator mounted on such a tractor, said elevator including a series of forwardly extending, elongated tines arranged to be moved from ground resting position to an elevated position, a series of extensible tines reciprocally mounted on said elongated tines lying in the same general plane as said tines in position to support a hay load in an extended position forwardly of said elevating tines, means for advancing and retracting said extensible tines, clamp means juxtaposed above said tines and arranged to move into clamping position on a carried load, means for raising and lowering said forwardly extending tines, and a pusher bar pivotally mounted on and adjacent the bottom portion of said elevator in position to pivot downwardly to bear against a load carried in extended position to prevent retraction of the load on retraction of the extensible tines.

2,999,609
MASKING-TAPE APPLICATOR
Thomas G. Thompson, Shanango Township, Mercer County, Pa. (R.D. 2, West Middlesex, Pa.)
Filed Nov. 3, 1959, Ser. No. 850,567
2 Claims. (Cl. 216—29)

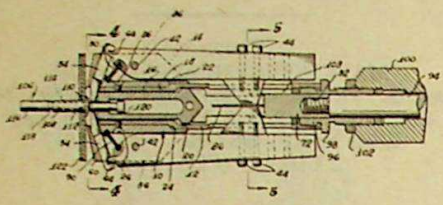


1. A masking-tape applicator comprising a single supporting plate, a masking-tape holder rotatably mounted upon one side of said plate, a front guide member extending from said one side of said plate and below said tape-holder, said front guide member being forward of the path of the tape and being free of engagement therewith, a handle extending from the other side of said plate in the region of said front guide member so as to effect alignment of said front guide member in the desired path for the masking-tape, a rear guide member mounted upon said one side of said plate and rearward of said tape-holder and said front guide member so as to maintain alignment of the masking-tape in the path determined by said front guide member, the path of the tape being directly from the tape holder to the rear guide member, and a handle extending from said other side of said plate in the region of said rear guide member so as to guide the masking-tape along the determined path and to effect pressure of said rear guide member upon the masking-tape as it is applied to the work.

2,999,610
RIVET SETTING TOOL
Roland H. Gapp, Santa Ana, Calif., assignor to Townsend Company, a corporation of Pennsylvania
Filed Apr. 18, 1958, Ser. No. 729,443
3 Claims. (Cl. 218—35)

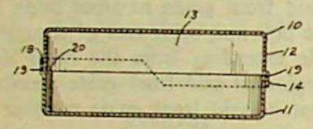
1. A setting tool for a blind rivet of the character described including a headed sleeve and a stem, comprising a sleeve open at its rear end and having an end wall extending across its forward end, said end wall having a forward face for seating against the head of the rivet sleeve and an axial bore through which the rivet stem may extend into said sleeve, a draw-bolt slideable in said sleeve and having means drivingly engageable with the rivet stem for pulling of the latter into the sleeve by rearward movement of said draw-bolt in the sleeve, an enlarged head at the forward end of said sleeve, said head having slots at diametrically opposite sides of and in a common axial plane of the sleeve, a pair of axially extending levers having forward ends slideably received in said slots and rear ends extending rearwardly along the outside of said sleeve, means connecting an intermediate point of said levers to said head for pivoting of the levers in said axial plane, a pair of chisel blades slideably received in said slots and having inner tip ends slideably received in slots in said end wall which open

into said axial bore, said blades having cutting edges at their inner tip ends and being longitudinally movable along direction lines inclined rearwardly of said sleeve at acute angles to the sleeve axis to extend said cutting edges into and retract said edges from said axial bore to indent the rivet stem, means connecting the adjacent levers and



blades for movement of the latter by pivoting of said levers, cam followers on said levers extending to the interior of said sleeve through slots in the sleeve wall, and cam surfaces on said draw-bolt engageable with said cam followers to pivot said levers to extend said cutting edges into said axial bore when said draw-bolt is moved rearwardly to a predetermined position in said sleeve.

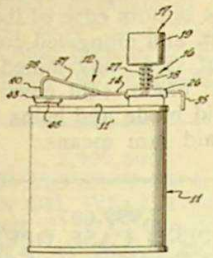
2,999,611
TWO-PART PLASTIC CONTAINER
Thomas V. Paulson, Rte. 2, Box 198, Fallbrook, Calif.
Filed May 19, 1960, Ser. No. 30,254
1 Claim. (Cl. 220—4)



A container comprising two identical, separable, flexible, resilient molded plastic rectangular sections fitting together in mutual telescopic relation, each section having a continuous main wall and a pair of auxiliary walls at diagonal corners, the main walls of said sections being in aligned abutting relation, said auxiliary walls being offset outwardly and each extending substantially halfway along two converging sides of said main wall, the ends of said auxiliary walls being beveled and being in aligned abutting relation with the corresponding auxiliary wall ends of the complementary section when the sections are fitted together, there being a post-like abutment on the inner side of each main wall at said diagonal corners and extending beyond the edge thereof to effect alignment of said sections when being assembled, and nib and socket means for locking said sections together.

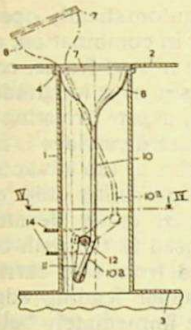
2,999,612
CAN OPENER AND SEALER
Ralph A. Valvano, Long Beach, Calif.
(602 S. Quaker Ave., Tulsa 20, Okla.)
Filed Oct. 20, 1958, Ser. No. 768,489
2 Claims. (Cl. 220—51)

1. A can opener and sealer device, comprising an elongated thin body, a slider member mounted for limited movement longitudinally of said body, punch means carried in part on said slider member and in part on said body, said punch means including an upwardly spring-biased, rotatably mounted punch stem terminating in a punch blade provided with upwardly facing shoulders adapted to engage the inner surface of a can adjacent a hole punched in the end thereof by said punch for releasably anchoring the device to the can, a sealing pad carried by said slider member and through which the stem of said punch extends, a punch element carried on said body adjacent its other end, said punch element comprising an elongated integral portion of said body separated therefrom by a split throughout its length and



having an upwardly inclined main portion and a downwardly turned pointed end portion, and a sealing pad on the underside of said body adjacent said punch element.

2,999,613
REMOTE-CONTROLLED DEVICE FOR CLOSING AND OPENING FUEL-TANKS OF MOTOR-VEHICLES
Giuseppe Garabello, 21 Ivrea, Chivasso, Turin, Italy
Filed Jan. 22, 1960, Ser. No. 4,115
Claims priority, application Italy Nov. 13, 1959

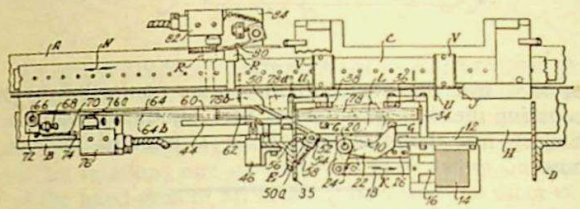


A remote-controlled filler cap assembly for motor-vehicle fuel tanks comprising a filler tube for connecting at one open end to the tank, a stepped formation at the other open end of the tube defining an annular shoulder to serve as a valve seating, an operating shaft disposed within the tube for rotation about an axis transverse to the longitudinal axis of the tube and extending at one end externally of the tube, a crank mounted on said operating shaft and disposed within the tube, a connecting rod coupled at one end to the free end of the crank, and a valve member including a rigid disc coupled to the other end of the connecting rod and having a radial recess at its periphery and a resilient cup-shaped element disposed coaxially about the connecting rod with a flange seated in the peripheral recess of the disc, whereby the flange is caused to abut and seal against the valve seat shoulder when the connecting rod is operated to draw the valve member into that open end of the tube.

2,999,614
APPARATUS FOR FEEDING CLEATS TO BOX-MAKING MACHINES
David G. Kingsley and Richard L. Rice, Mountain Lakes, and L. Stanley Hayward, Morris Plains, N.J., assignors to Stapling Machines Co., Rockaway, N.J., a corporation of Delaware
Original application Sept. 20, 1954, Ser. No. 457,066, now Patent No. 2,827,201, dated Mar. 18, 1958. Divided and this application Apr. 19, 1957, Ser. No. 659,451
3 Claims. (Cl. 221—13)

3. Apparatus for dispensing mitered cleats comprising a conveyor band, motor means for driving said conveyor band, push elements secured to and projecting from said

conveyor band at intervals spaced apart sufficiently to permit said cleats to be received lengthwise in the spaces between said push elements, a hopper having a bottom and being adapted to hold a stack of said cleats with the bottom cleat in said stack at one side of and adjacent to the path of said push elements, a movable cleat ejecting member adapted to engage said bottom cleat and move its trailing end outwardly into said path for engagement by the succeeding push element, power means for actuating said cleat ejecting member, a cleat supporting surface for supporting said cleat as it is pushed along said path by said push elements, a gate member positioned at the output end of said hopper, said gate member extending obliquely inward from the outboard side of said hopper toward said path to direct the leading end of said cleat laterally into said path as it moves away from said hopper, and being mounted for outward movement to allow the leading end of said cleat to pass between said gate member and the outer end of the preceding push element when said cleat is too long to fit into the space between



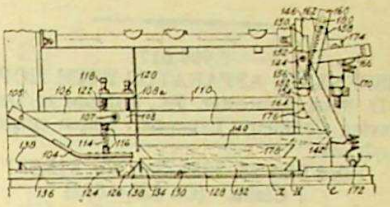
the preceding and succeeding push elements at the level at which it is normally supported by said cleat supporting surface, a ramp member positioned adjacent the inner end of said gate member and just outboard of said cleat path to be engaged by the mitered leading end of such excessively long cleat and to cam said leading end upwardly, resilient means urging said movable gate member inwardly to push said leading end onto the top of the preceding push element and into alignment with said path, a guide rail extending along the outside of said path beyond the end of said gate member and being mounted for outward movement to permit passage of a cleat of excessive length, resilient means urging said guide rail inwardly, and an electrical switch connected to control said motor means, said switch being arranged to be actuated by the outward movement of said guide rail to a predetermined position beyond the position to which said guide rail is normally moved by passage of a cleat of excessive length whereby to stop said conveyor bands if the leading end of a cleat fails to move over into line with said push elements.

2,999,615
APPARATUS FOR FEEDING CLEATS TO BOX-MAKING MACHINES

David G. Kingsley, Mountain Lakes, and L Stanley Hayward, Morris Plains, N.J., assignors to Stapling Machines Co., Rockaway, N.J., a corporation of Delaware

Original application Sept. 20, 1954, Ser. No. 457,066, now Patent No. 2,827,201, dated Mar. 18, 1958. Divided and this application Apr. 19, 1957, Ser. No. 659,453
1 Claim. (Cl. 221—13)

Apparatus for dispensing cleats of generally uniform thickness, said apparatus comprising a hopper adapted to hold a generally vertical stack of said cleats, a conveyor, motive means for driving said conveyor, push elements mounted on said conveyor for movement therewith lengthwise across the lower end of said hopper, said push elements being spaced apart to receive said cleats lengthwise between them, a base member extending across the bottom of said hopper, said base member being spaced from the bottom of said hopper to permit said push elements to pass through the bottom of said hopper and engage the bottom cleat in said stack and push it endwise out of said hopper along said bar member, a pair of exit gates mounted side-by-side in a generally vertical position at the output end of said hopper, each of said gates being pivoted near its upper end for outward movement of its lower end. the lower end of the first of said gates being spaced above said base member a distance greater than the thickness of one of said cleats but less than twice the said thickness and the lower end of the second of said gates being spaced above said base member a distance greater than twice the thickness of one of said cleats but less than three times the said thickness and means urging said gates in-

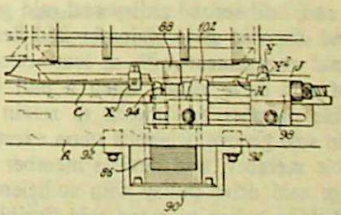


wardly toward the ends of the cleats in said stack, said urging means being yieldable to permit said gates to swing outwardly to increase the spacing of their lower ends from said base member, an electric switch connected to control said motive means, switch actuating means associated with said second gate for movement therewith, said switch actuating means being arranged to actuate said switch to stop said motive means upon outward movement of said second gate, whereby said first gate may be open to permit either a cleat of abnormal thickness or two cleats of normal thickness to pass out of said hopper, and said second gate may open in the event of a more serious malfunction and in so opening stop said conveyor.

2,999,616
APPARATUS FOR FEEDING CLEATS TO BOX-MAKING MACHINES

David G. Kingsley, Mountain Lakes, N.J., assignor to Stapling Machines Co., Rockaway, N.J., a corporation of Delaware

Original application Sept. 20, 1954, Ser. No. 457,066, now Patent No. 2,827,201, dated Mar. 18, 1958. Divided and this application Apr. 19, 1957, Ser. No. 659,452
2 Claims. (Cl. 221—224)



1. Apparatus for dispensing slats comprising a conveyor band, means for driving said conveyor band, push elements secured to said conveyor band at intervals to define alternate spaces for respectively receiving cleats of two different lengths, a hopper adapted to hold a generally vertical stack of cleats of one of said lengths in line above the path of said push elements, a horizontal cleat supporting surface extending across the bottom of said hopper for supporting the bottom cleat in said stack in said path, the lower end of said hopper on at least three sides thereof being spaced above said supporting surface a distance at least slightly exceeding the thickness of one of said cleats, whereby said push elements can pass through the lower end of said hopper and en-

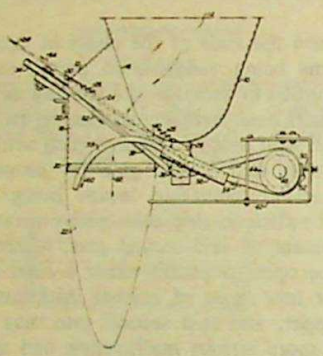
gage the trailing end of said bottom cleat, strip it from the bottom of said stack and push it endwise out of said hopper along said path, a movable cleat elevating member adapted to engage said bottom cleat and hold its trailing end above said path, motive means for actuating said cleat elevating member as aforesaid, control means for controlling the operation of said motive means, actuating elements carried by said conveyor band in predetermined relation with the push elements at the trailing ends of the spaces for receiving cleats of the other of said lengths, to actuate said control means and cause said motive means to drive said cleat elevating member to engage said bottom cleat and hold the same above said path as the latter said push members pass the trailing end of said bottom cleat.

2,999,617

DISPENSING APPARATUS WITH HOPPER

Aquila D. Mast, Lancaster, Pa., assignor to Daffin Manufacturing Company, Lancaster, Pa., a corporation of Pennsylvania

Filed May 26, 1959, Ser. No. 815,997
1 Claim. (Cl. 222—504)



Dispensing apparatus comprising a hopper, a chute communicating with said hopper at the bottom and side thereof, a gate slidably mounted on said chute for movement between closed and open positions to control flow of material through said chute, resilient means for urging said gate to closed position, a freely rotatable pulley, an elongated flexible member trained over said pulley and having one end secured to said gate, a second freely rotatable pulley engaging said flexible member, a continuously rotating grooved friction drive pulley, a tubular guide, said flexible member being trained over said drive pulley and extending through said guide and terminating in a free end, said second pulley and said guide being so related and disposed as to maintain said flexible member in frictional engagement with at least one-half the periphery of said drive pulley when a pull is exerted on said flexible member and means to retain said flexible member in said groove, whereby upon exerting a pull on said flexible member, said flexible member will frictionally engage said drive pulley with sufficient pressure to cause said drive pulley to move said flexible member to open said gate and upon release of said flexible member to frictionally disengage said flexible member from said drive pulley said gate will be returned to said closed position by said resilient means.

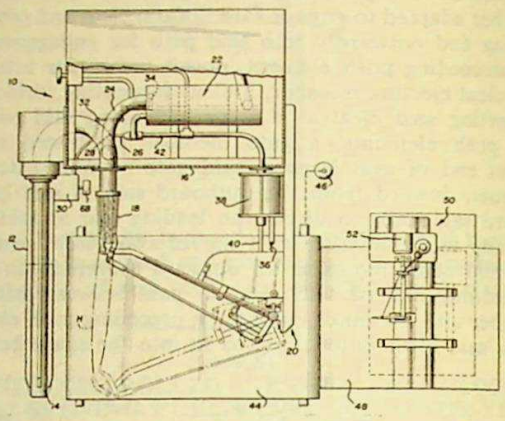
2,999,618

HOSIERY INSPECTING, STACKING AND BUNDLING APPARATUS

Gus T. Smith, Paducah, Ky., assignor to Marvel Specialty Company, Inc., Paducah, Ky., a corporation of Kentucky

Filed Aug. 6, 1959, Ser. No. 832,047
5 Claims. (Cl. 223—43)

1. A hosiery inspection and bundling machine comprising a hosiery inspection form, bundling means for receiving inspected hosiery from said form and operable when actuated to tie received hosiery into a bundle, means actuable to transfer an inspected hose from said form to said bundling means, means for counting actuations



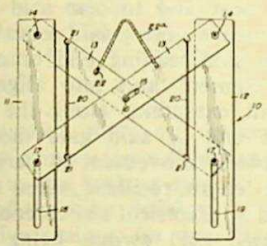
of said transfer means, and means controlled by said counting means for actuating said bundling means to tie hosiery into bundles containing a selected number of hose.

2,999,619

GARMENT CREASING DEVICE

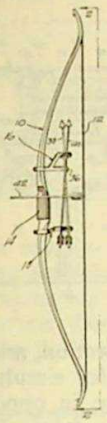
Harold Thorne, Downingtown, Pa., assignor to Gordon Samuel Lexton, Downingtown, Pa.

Filed Jan. 7, 1959, Ser. No. 785,474
4 Claims. (Cl. 223—74)



1. A garment creasing device, particularly a device for use with trousers, comprising a pair of spaced apart substantially rigid components adapted to be inserted into a trouser leg, a pair of link members arranged in crossed-over relationship with one end of each member being pivotally connected to one end of each of said components, the other end of each link member being mounted for longitudinal sliding movement between uppermost and lowermost positions in an elongated slot provided in each component in spaced relation to said pivot connections, a lost motion connection between said link members in proximity to their cross-over point, and resilient means operably connecting said link members between the cross-over point end each component normally urging said link members to their uppermost position in said elongated slots to hold the spaced components away from each other, yet upon pressing the components together adjacent said pivotal connections, the resilient means allow the other ends of said link members to move to the lowermost position in the elongated slots to move the spaced components toward each other thereby permitting the device to be inserted in the trouser leg, and upon release of said components, the resilient means moves the link members towards the uppermost position in the slots so that the spaced components stretch the trousers.

2,999,620
ARROW HOLDING ATTACHMENT
Bert E. Haggard, Rte. 2, England, Ark.
Filed Nov. 27, 1959, Ser. No. 855,902
3 Claims. (Cl. 224—1)

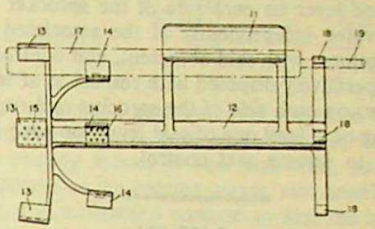


1. An arrow holding attachment for mounting upon an arching bow to hold arrows in a convenient and ready position about the bow to permit rapid shooting comprising a pair of support member adapted to be arranged in parallel relation, one of said members being on one side of the hand grip of an arching bow and the other of said members on the opposite side of said hand grip, means on one of the complemental ends of said support members for fixedly attaching said support members to the adjacent portions of said bow, and a plurality of stalls on the other of the complemental ends of said support members, the stalls of said support members being in substantial alignment, the stalls on one of said support members being directly behind each other with their entrances on the same side of the support and the stalls on the other of said support members being behind each other with their entrances on opposite sides of the support.

2,999,621
FOLDABLE TACKLE BOX
Albert L. Kiser, Scottsdale, Ariz., assignor to Product Development Corporation, a corporation of Arizona
Filed Apr. 7, 1959, Ser. No. 804,616
7 Claims. (Cl. 224—5)

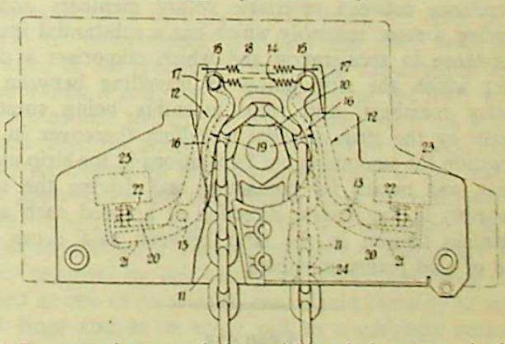
1. A foldable tackle box comprising a pair of rectilinear tray units, each having a flat bottom and upstanding side walls, one side wall of one unit being hinged to an adjacent side wall of the other unit for folding movement of said other unit relative to said one unit from an open position in which said units are in generally flat relation to a closed position in which said units are in superposed face-to-face relation, the opposite side wall of said one unit having a rigid upstanding extension, the length of said extension beyond said one unit being substantially equal to the thickness of said other tray unit, an elongated member hinged at one end to the upper end of said extension for a second folding movement of said units from a position generally perpendicular to said member to another position parallel to said member with the bottom of said other unit bearing against said member, said member including means at the opposite end for connecting the box to a waist belt, and means for releasably fastening said opposite end of said member to said one unit when said units are in said other position for holding said units closed in said other position.

2,999,622
FISHING ROD HOLDERS
Delbert Durham, 2500 Shanmoor Ave., Norwood, Ohio
Filed Aug. 11, 1959, Ser. No. 833,067
1 Claim. (Cl. 224—45)



A fishing rod holder comprising a handle, a shank parallel to said handle and attached thereto, axially spaced hooks and supports with opposed semi-cylindrical rod-engaging surfaces extending outwardly from said shank at one end thereof, hooks axially aligned with said first named hooks extending outwardly from said shank at the other end thereof, the stems of said first named hooks being resilient and bent to keep the rod-engaging surfaces of said first named hooks normally out of axial alignment with those of the last named hooks and those of the supports, whereby, when fishing rods are placed between said first named hooks and said supports and are engaged under said last named hooks, the rod-engaging surfaces of said first named hooks will be in axial alignment with the rod engaging surfaces of the last named hooks and of the supports, the resilient stems of the first named hooks will be straight and under tension and yieldingly retaining the fishing rods between the hooks and the supports.

2,999,623
CHAIN GUARDS FOR ELECTRICALLY OPERATED HOIST PULLEY BLOCKS
Donald Mayer King, Argyle Works, Stevenage, England
Filed Nov. 25, 1958, Ser. No. 776,329
Claims priority, application Great Britain Nov. 26, 1957
5 Claims. (Cl. 226—43)



1. In operative association with a chain system including a chain, an abutment on the chain and extending outwardly therefrom, a sprocket engaging and moving the chain in a predetermined alignment with respect to said sprocket, and a control operative to control movement of the chain; an apparatus responsive to said abutment for actuating said control and to deformities in said chain for actuating said control, said apparatus comprising, on opposite sides of said sprocket, a first lever adjacent said

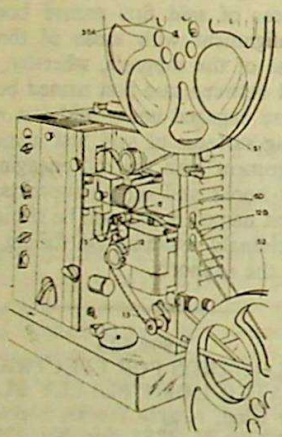
chain and sprocket and having a surface facing the chain and sprocket and adapted to accommodate the passage of the chain in said predetermined alignment between the sprocket and said lever, a second lever adjacent said chain and sprocket and operatively disposed with respect to said abutment for being engaged by the latter, said first lever having a shape adapted to permit the free passage of said abutment and being displaceable solely by said chain when the latter deviates from said predetermined alignment, resilient means respectively connecting the first levers and the second levers on opposite sides of said sprocket and urging said levers toward said chain, pivot means supporting the levers whereby the first lever on each side of the sprocket is adapted to be pivoted when said chain deviates from said predetermined alignment and whereby the second lever on each side of the sprocket is adapted to be pivoted independently of the associated first lever by engagement with said abutment, and control actuating means operatively disposed with respect to at least one of said levers on each side of the sprocket and responsive to a pivoting of at least one of said levers on each side of the sprocket to actuate said control.

2,999,624

MECHANISM FOR FEEDING STRIP MATERIAL

Cornelius Graham Mayer, Chobham, and John Bertram Killow, Betchworth, England, assignors, by mesne assignments, to Radio Corporation of America, Princeton, N.J.

Filed June 13, 1958, Ser. No. 741,923
Claims priority, application Great Britain June 18, 1957
9 Claims. (Cl. 226—50)



1. Mechanism for feeding strip material in opposite directions between reversible rotary members and including a rotor assembly which has a substantial inertial resistance to acceleration and which comprises a drum over which the strip passes in travelling between the rotary members, said rotor assembly being rotatable freely by the strip material travelling thereover in one direction for smoothing out fluctuations in the strip movement, and means for contacting and driving the rotor assembly in the reverse direction at a speed such as to maintain tension in the strip between said drum and one of said rotary members.

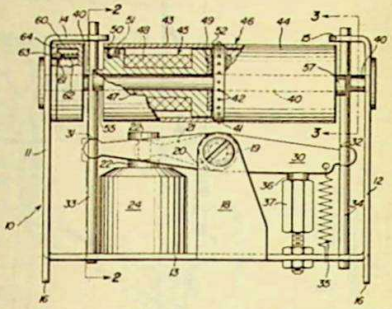
2,999,625

TAPE TRANSPORT APPARATUS

Lloyd J. Lapointe, Manchester, Conn., assignor to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York

Filed June 23, 1958, Ser. No. 743,805
8 Claims. (Cl. 226—51)

1. A record transport device; comprising a frame, a record supporting feed drum means rotatably mounted on said frame, a pair of rotatably mounted clutch spools which are individually operated one at a time and which in their engaged conditions are respectively rotatably connected to said drum means and which in their disengaged conditions are respectively rotatably disconnected from said drum means, means for rotating one of said spools in one direction, means for rotating the other of said



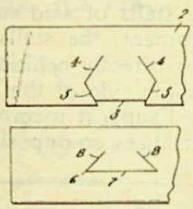
spools in the opposite direction, and a single power means mounted on said frame for simultaneously operating the two spool rotating means in opposite directions so that said drum means may be driven in either rotative direction depending on which one of said clutch spools is in its engaged condition.

2,999,626

SELF-LOCKING BOX

William J. McDermott, Natick, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts

Filed Aug. 11, 1959, Ser. No. 833,033
1 Claim. (Cl. 229—45)



A self-locking box comprising a bottom part having an upstanding portion and a top part having a depending portion extending downwardly along the outside of the bottom portion when the box is closed, the upstanding portion being cut to define a pair of opposed edges which diverge from each other downwardly and the depending portion having a tongue fitting into the cut between said edges, the tongue having a pair of side edges which also diverge from each other downwardly, the angle of divergence of the tongue edges being less than the angle of divergence of said cut edges and the edges of one of said pairs intersecting the edges of the other pair when the box is closed with the tongue inserted in the cut, the edges of the lower end of the tongue being convergent to facilitate insertion of the tongue into the cut and the maximum width of the cut being substantially equal to the maximum width of the tongue so that the tongue may be freely inserted into the cut.

2,999,627

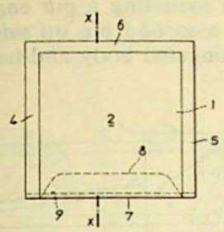
FLAT BAG PACKAGE AND METHOD FOR FABRICATING SAME

Fritz Reinhardt, near Herford, Westphalia, Germany, assignor to Firma Fr. Hesser, Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany, a corporation of Germany

Filed July 31, 1958, Ser. No. 752,243
Claims priority, application Germany Oct. 18, 1957
1 Claim. (Cl. 229—55)

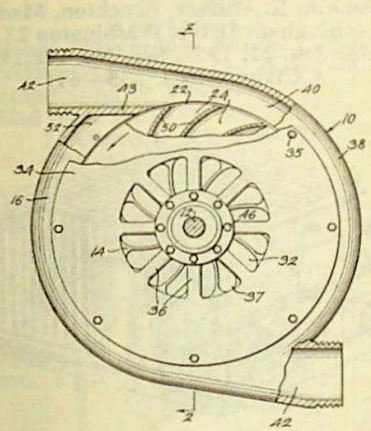
A bag unit comprising, in combination, a flat bag of sheet material, a commodity in said bag, said bag includ-

ing lateral margins, a protective bell-like cover surrounding said flat bag and forming a stably-standing hollow body open at the bottom and connected with the flat bag only at an upper seam and at said lateral margins, the protective bell-like cover being of a stiffer material than



the flat bag, the upper seam terminating at one end in a triangular sealed area provided with an aperture, the upper seam further terminating at its other end in a triangular sealed area having therein a channel extending from the interior of the flat bag towards the apex of a corner of said bag.

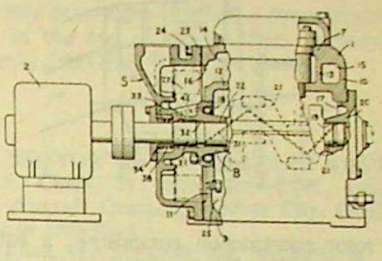
2,999,628
LOW PRESSURE COMPRESSOR
Joseph S. Crombie, 7725 Robinson Way, Arvada, Colo.
Filed Aug. 26, 1957, Ser. No. 680,040
3 Claims. (Cl. 230—47)



1. A low pressure compressor comprising a disc-shaped rotor including a hub member mounted for rotation on a shaft, said rotor being provided with annular cavities on opposed sides of said rotor adjacent to said hub and a pair of rows of horn-shaped openings diverging outwardly and rearwardly from said annular cavities through the periphery of said rotor, a housing arranged in spaced relation over said rotor to form a peripheral cavity adjacent to the periphery of said rotor and including a plurality of openings in substantial registry with the annular cavities in said rotor, and a pair of diametrically opposed tangentially extending exhaust conduits leading from the peripheral cavity formed by said housing in a direction opposite to the rearward extension of said horn-shaped openings and with the inner ends of said exhaust conduits defining baffles terminating adjacent to the periphery of said rotor to direct the fluid discharged from said horn-shaped openings into said conduits.

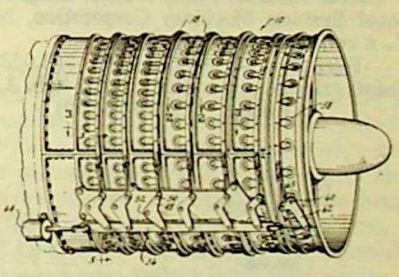
2,999,629
INTERCHANGEABLE, HERMETIC AND OPEN-TYPE REFRIGERATION COMPRESSOR
Henri Soumerai, Springfield, Mass., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,401
22 Claims. (Cl. 230—58)

1. An end bell adapter means for an open ended compressor having a crankshaft extending a predetermined distance outwardly of the open end of the compressor comprising, a cylindrical section having at least one end wall with passages therein, and an end cover section, means on said cylindrical section to permit the cylindrical section to be connected to the end cover section at one end and to the open end of the compressor at the other end to provide a hermetically sealed



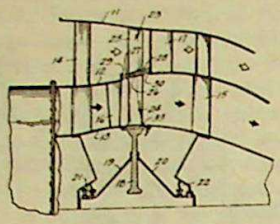
chamber in assembled position, inlet means in said end cover in communication with said chamber, an axially extending bearing means in said end wall, an annular member formed on the bearing means, said annular member disposed in assembled position to seal the crankcase of the compressor and to position the bearing means for rotatably supporting the crankshaft extension.

2.999.630
COMPRESSOR
Robert Evans Warren, Marblehead, Mass., and Felix Ernst Nagel, Columbus, and Gerhard Neumann and Le Var C. Jensen, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Aug. 8, 1957, Ser. No. 677,145
1 Claim. (Cl. 230—114)



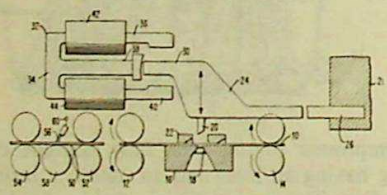
A compressor for an axial flow machine comprising: a casing having an inlet and an outlet; a series of guide vanes adjustably mounted in a row in the inlet of said casing; a plurality of rows of stator vanes adjustably mounted in said casing downtream of said row of guide vanes; a plurality of rows of lever arms, the lever arms of one row being connected to said inlet guide vanes and the arms of the remaining rows being connected to said stator vanes; a plurality of actuator rings, the lever arms of each of said plurality of rows being connected to one of said rings; the actuator ring for said row of guide vanes being positioned on the downstream side of the associated guide vanes and the actuator rings for said rows of stator vanes being positioned on the upstream side of the associated stator vanes; a plurality of bellcranks pivotally mounted on said casing, each bellcrank being connected at one of its ends to one of said plurality of actuator rings and at its other end to a common actuator arm, the bellcrank connected to the actuator ring of said one row of lever arms of said guide vanes being reversed from the bellcranks connected to said remaining rows of lever arms, the remaining rows of lever arms also being reversed from said one row, in order that the actuator ring connected to said one row of lever arms may be turned in a direction opposite to the actuator rings of said remaining rows to turn all of the vanes in the same direction.

2,999,631
DUAL AIRFOIL
Charles Wollmershauser, Wyoming, Ohio, assignor to General Electric Company, a corporation of New York
Filed Sept. 5, 1958, Ser. No. 759,251
5 Claims. (Cl. 230—116)



1. A rotor construction comprising: a rotor wheel; a plurality of dual airfoils mounted on the periphery of the wheel, each dual airfoil including a turbine bucket, a compressor blade, and a mid-platform section connecting the blade to the outer extremity of the bucket, the mid-platforms of adjacent dual airfoils abutting along their lateral surfaces; and interlock faces carried by the mid-platform sections, the interlock faces of adjacent dual airfoils bearing against each other to resist torsion and centrifugal twisting forces, said interlock faces being capable of movement relative to each other; a sealing member adapted to be held adjacent to the mid-platforms to seal the joint therebetween and to provide flexural and torsional vibration dampening.

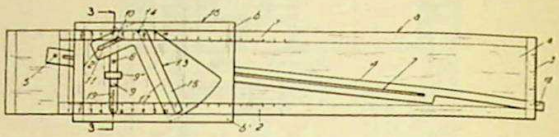
2,999,632
HIGH SPEED PUNCH MECHANISM
André Marcel Tailleur, Paris, France, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 26, 1958, Ser. No. 783,053
Claims priority, application France Feb. 3, 1958
5 Claims. (Cl. 234—109)



4. A mechanism for marking an element, comprising an oscillatable marking member cantilevered in a support, magnet means oscillating the member at a preselected frequency and normally within an amplitude at which it is ineffective to contact the element, and means responsive to a signal to augment the normal action of said magnet means for increasing the amplitude of such oscillation to cause the member to mark the element.

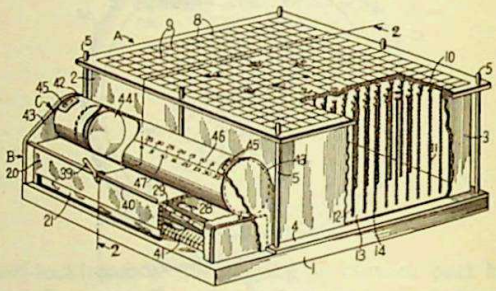
2,999,633
CALCULATING RULE
Roy Pio Pini, Via Giacomo Leopardi 6, Bollate, Milan, Italy
Filed Dec. 27, 1956, Ser. No. 630,946
Claims priority, application Italy Dec. 28, 1955
2 Claims. (Cl. 235—61)

1. A slide rule for relating variables such as material shrinkage, mold size and finished article size, comprising an elongated body having a first linear scale indicating dimensions for the finished article, a second linear scale parallel to the first scale for indicating mold dimensions, and a third scale of shrinkage percentages arranged transversely of the first and second scales, a slide slidable on said elongated body along said first and second scales, a bell crank lever having first and second arms respectively provided with an index and a slot, a pivot pivotally supporting said lever on said slide, a spline slidably supported on said slide for movement transversely of said first and second scales and including a pin engaged in the slot in said second arm, a second pin on said spline, and a bar pivoted to said elongated body and having a slot slidably



engaging said second pin, said bar having an index for indicating a percentage on the third scale, the pivot for said bell crank indicating a dimension on one of the first two said scales and the index on said first arm indicating a dimension on the other of the latter scales whereby due to the pivoting of said lever and movement of said spline selection of two of the variable indicates the third of the variables.

2,999,634
CONTOUR DEVICE
Franklin E. Walker, Brockton, Mass. (6251 Nottingham Drive, Washington 22, D.C.)
Filed Jan. 21, 1959, Ser. No. 788,240
6 Claims. (Cl. 235—61)

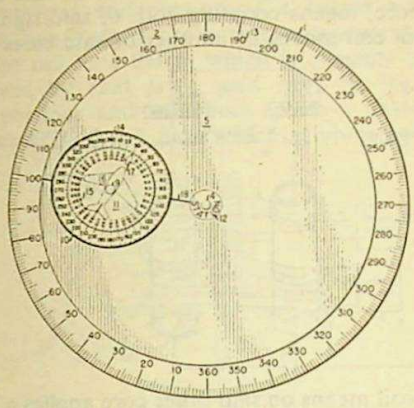


5. A differential volume contour device comprising a flexible surface collapsibly supported over a base to define with other elements an air-tight zone therebetween, an air-tight gear box communicating with said zone, a cylinder mounted for selective communication with said zone, a multiplicity of flexible cables anchored each at one end thereof in said flexible surface and at the other end thereof in separate tensioning means for moving the same downwardly at said flexible surface, and a multiplicity of springs mounted around said cables and extending between said base and said flexible surface for constantly urging the latter upward, said tensioning means being mounted in said gear box for independent operation by means positioned outside an air-tight wall thereof, and said cylinder including a piston for movement therealong to register changes of volume in said zone.

2,999,635
NAVIGATIONAL COMPUTER
Edward W. Robertson, 912 State St., Camden 2, N.J.
Filed July 6, 1959, Ser. No. 825,262
13 Claims. (Cl. 235—61)

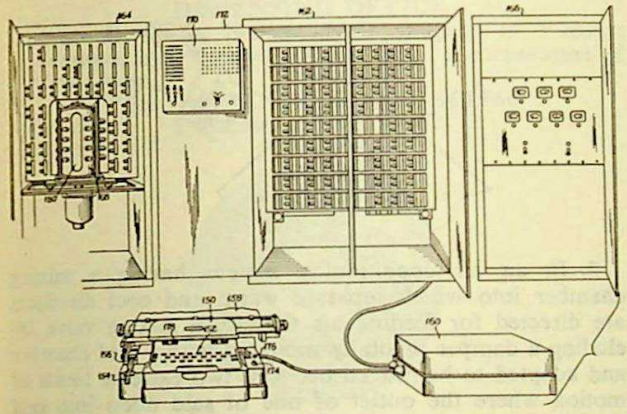
1. A navigational computer comprising a base ring defining a first axis of revolution, azimuthal indicia upon said base ring, a second ring adapted to rotate about a second axis substantially parallel and eccentric to said first axis while simultaneously revolving that second axis around said first axis, azimuthal indicia upon said second

ring, means integrating said rotation and revolution of the second ring to maintain, throughout revolution, any given radial thereof substantially parallel to its corresponding radial on the base ring, a third ring adapted to rotate



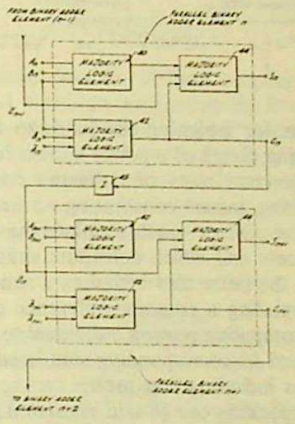
about the second axis in freely adjustable rotation relative to the second ring and, as so adjusted, to rotate in unison with the second ring, and azimuthal indicia upon said third ring.

2,999,636
COMPUTER
Glenn E. Hagen, Manhattan Beach, Calif., assignor, by mesne assignments, to Alwac International Incorporated, a corporation of Panama
Filed Aug. 18, 1953, Ser. No. 374,987
14 Claims. (Cl. 235—167)



1. In an electronic computing device, a pair of plural order binary recirculating registers together comprising a pair of independent electronic delay lines and each adapted to transmit a time sequential signal group the successive signals of each of which are indicative of the successive digits of distinct plural order binary numbers, a common electromagnetic delay line comprising an endless magnetic record, a recording head and a reading head mounted in spaced relation along a common track on such record, a biplexing device interposed between the output ends of said electronic delay lines and the input end of said electromagnetic delay line record head to transmit signals to said electromagnetic delay line from said electronic delay lines alternately whereby each signal in said electromagnetic delay line indicative of a digit of one of said numbers is interposed between a pair of signals indicative of digits of the other of said numbers, a debiplexing device interposed between the output end of said electromagnetic delay line read head and the input ends of said electronic delay lines and operative to transmit signals from said electromagnetic delay line to said electronic delay lines alternately whereby the interspersed digit indicative signals of said numbers in said electromagnetic delay line are separated and all and only signals indicative of digits of one number are transmitted to a first of said electronic delay lines and all and only signals indicative of digits of the other number are transmitted to the second of said electronic delay lines, and means selectively operative to modify the time delay of one of said electronic delay lines to effect a denomination order digit shift in the one of said registers embodying said one electronic delay line.

2,999,637
TRANSISTOR MAJORITY LOGIC ADDER
Winfield S. Curry, Jr., Anaheim, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 29, 1959, Ser. No. 809,750
2 Claims. (Cl. 235—175)

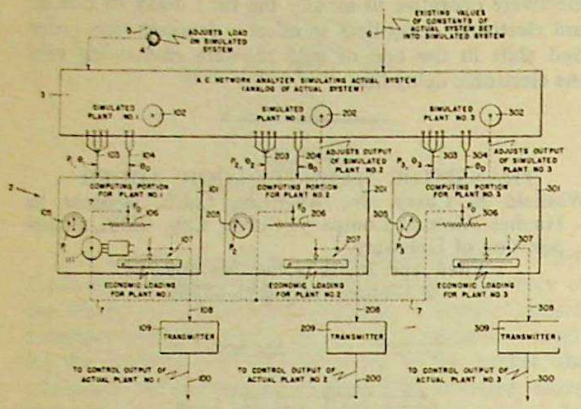


1. In a parallel adder circuit, an apparatus for adding the nth digit of first and second binary numbers wherein n is a positive integer greater than zero which commences with 1 and assumes progressively increasing values for increasing orders of significance of the digits of said binary numbers, said apparatus comprising a first majority logic computer element having first, second and third input terminals and an output terminal, said first and second input terminals being responsive, respectively, to first and second signals representative of the nth digit of each of said first and second binary numbers and said third input terminal being responsive to a third signal that is the complement of the carry signal produced by the addition of the $(n-1)$ digits of said first and second binary numbers and the carry from the $(n-2)$ order; a second majority logic computer element having a first, second and third input terminal and an output terminal, said first and second input terminals being responsive, respectively, to fourth and fifth signals representative of the complements of signals representing the nth digit of said first and second binary numbers and said third input terminal being responsive to said third signal thereby to produce a sixth signal at said output terminal thereof representative of the carry digit from the addition of the nth digits of said first and second binary numbers and the carry from the $(n-1)$ order at said output terminal thereof; and a third majority logic computer element having first, second and third input terminals and an output terminal, said first and second input terminals being connected, respectively, to the output terminals of said first and second majority logic computer elements and said third input terminal being responsive to said third signal thereby to produce at the output terminal thereof a signal representative of the sum of the nth digits of said first and second binary numbers and the carry from the $(n-1)$ order.

2,999,638
MEASURING AND CONTROLLING APPARATUS

William R. Brownlee, 780 Montgomery Drive, Birmingham 9, Ala.

Filed Jan. 7, 1957, Ser. No. 632,756
10 Claims. (Cl. 235—185)



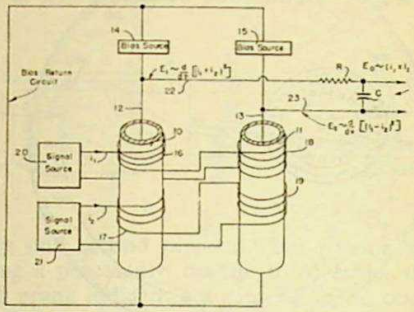
7. Apparatus for assigning the loads to the interconnected generating plants of a power system in accordance with the incremental costs of delivered energy for the plants, comprising means constituting an analog of said system including devices which simulate the operation of said system plants and which constitute simulated plants in said analog, the latter also including a simulated reference point simulating a common reference point in said system, and a computing portion individual to each of said system plants and its corresponding simulated plant, each of said portions including first means arranged to derive from the corresponding one of said simulated plants a first effect which is representative of the value of the phase angle between the output voltage of said corresponding simulated plant and the voltage at said simulated point, second means arranged to compute from said first effect a second effect which is a function of said phase angle and which is representative of the incremental transmission loss for said corresponding simulated plant with respect to said simulated reference point, third means arranged to compute a third effect which is a function of the output of said corresponding simulated plant and which is representative of the incremental generating cost for said corresponding simulated plant with respect to said simulated reference point, and fourth means arranged to adjust the output of said corresponding simulated plant to the economic balance value required to establish equality between said second and third effects, these economic balance values of the outputs of said simulated plants representing the economic combination of loadings for said system plants at which the latter will operate with equal incremental costs of delivered energy.

2,999,639
ANALOG MULTIPLYING CIRCUITS

Daniel M. Lipkin, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 19, 1957, Ser. No. 697,344
10 Claims. (Cl. 235—194)

7. In combination, a plurality of magnetic cores, bias means for applying to each of said cores a magnetomotive force of sufficient magnitude to saturate each of said cores and to cause said cores to operate in the associated region of vanishing rotational hysteresis loss, input coil means on each of said cores responsive to signals applied thereto for applying magnetomotive forces to said cores in directions transverse to the magnetomotive forces produced by said bias means, first and second signal sources for supplying separate signals, means coupling both of said signal sources to the input coil means of one of said cores such that said input coil means on said one core applies a magnetomotive force proportional to the instantaneous sum of said signals from both of said sources to said one core, means coupling both of said signal sources to the input coil means of another of said cores such that

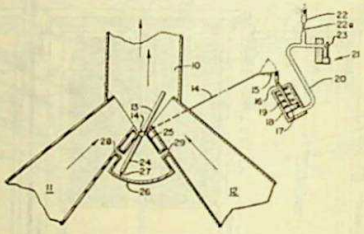


said input coil means on said other core applies a magnetomotive force proportional to the instantaneous difference between the signals from both of said sources to said other core, means for deriving separate output signals from each of said cores, and output means for deriving a signal in accordance with a combination of said separate output signals from said cores.

2,999,640
AIR CONDITIONING MIXING VALVE

Robert W. Waterfill, Montclair, N.J., assignor, by mesne assignments, to Buensod-Stacey Corporation, a corporation of Ohio

Filed June 12, 1957, Ser. No. 665,163
10 Claims. (Cl. 236—13)



2. In an air conditioning system having a mixing chamber into which separate warm and cool air ducts are directed for feeding air thereto, a mixing valve including a damper pivotally mounted within said chamber and adapted to be moved between two extreme limits of motion where the outlet of one of said ducts into said chamber is closed and the other is open; means connected between said ducts forming an hermetically sealed housing; a blade lying substantially in the plane of said damper and extending from its pivotal mounting into said housing, the other end of said blade cooperating with a wall of said housing to form separate compartments therein; restricted conduit means for causing the differential pressure between said ducts to act on said blade and at least partially balance the thrust on said damper caused by the air pressure within the duct being closed; and condition responsive means operably connected with said damper for determining the duct to be closed by said damper.

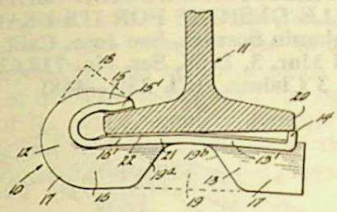
2,999,641
RAIL ANCHORS

James R. Steele and Stephen M. Lounsberry, Jr., Owego, N.Y., assignors to Moore & Steele Corporation, Owego, N.Y., a corporation of Delaware

Filed Sept. 5, 1957, Ser. No. 682,196
4 Claims. (Cl. 238—327)

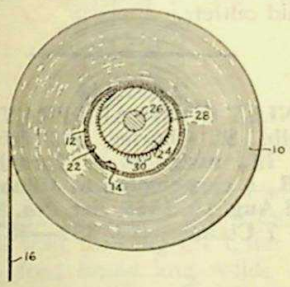
1. A rail anchor comprising a T-section bar steel member formed to provide a jaw portion comprising

upper and lower jaws for gripping the base flange of a rail and a body portion to extend beneath the rail base, said lower jaw and said body portion being formed with portions for abutting engagement with the side face of an adjacent cross-tie and said body portion having an upturned end portion of a height not substantially less than 5/16", for abutting engagement with that edge of the rail base flange which is opposite to the portion gripped by said jaws, said jaws having rail base gripping portions and said body portion having an element adjacent said rail base which gripping portions and



element comprise a continuous flange portion of said T-section member, said jaws and said body portion having stiffening ribs comprising the web portion of said T-section member, a substantial intermediate segment of said body portion having the web completely removed and consisting only of said flange portion of said T-section member, the web portions defining the removed portion comprising smooth curves so that the straight portion of the anchor is free from abrupt changes in section, whereby said segment of said body portion is more easily flexed.

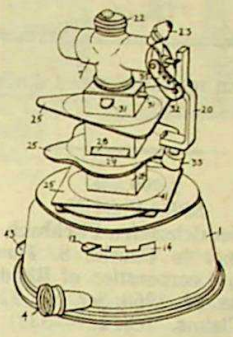
2,999,642
DISPENSING DEVICE
Florence B. Stone, Nutley, N.J., assignor to Vacuum Ventures, Inc., Pompton Lakes, N.J., a corporation of New Jersey
Filed Dec. 18, 1959, Ser. No. 860,566
5 Claims. (Cl. 239—52)



1. A dispensing device for rolled material comprising a hollow core member within said rolled material, said core member being rotatable with the rolled material when the material is being dispensed and having an inner surface on which there is disposed an evaporative substance confined within a frangible covering, and a supporting member for the rolled material extending within the hollow core member and having means for rupturing the frangible covering upon rotation of the core member and the support to release the evaporative substance confined within the covering.

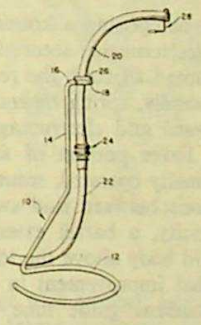
2,999,643
ADJUSTABLE PATTERN IRRIGATION SPRINKLING DEVICE
William P. Kennedy, 304 Freyer Drive, Marietta, Ga.
Filed Mar. 24, 1958, Ser. No. 723,490
7 Claims. (Cl. 239—97)

1. A cam-controlled pattern sprinkler, including a supporting body, a reduction geared water motor, conduit means connecting said water motor to rotary distribution head means, with said head means including a common fluid entry and two fluid exits with cylinder means reciprocatingly movable within said head means and between said entry and each of said fluid exits, with one exit producing an inclined jet discharge stream and the other exit producing a vertically circular discharge spray, with said cylinder means having connected thereto means to



cause a constant volume of fluid entering said entry to be distributed varyingly proportionally through said exits so as to vary the length of said inclined jet stream and vary the diameter of said vertically circular spray so that when said inclined jet stream is shortened said diameter of said circular spray is lengthened and when said jet stream is lengthened said diameter of said circular spray is shortened.

2,999,644
PORTABLE SPRINKLING DEVICE
Edward Nobinger, 1731 Mims Ave. SW., Birmingham, Ala.
Filed Apr. 7, 1959, Ser. No. 805,117
20 Claims. (Cl. 239—229)

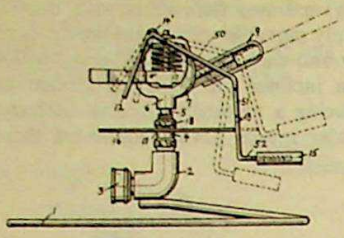


1. A liquid sprinkling device comprising a resilient and flexible hose, a stand for mounting on the ground, means attaching said hose to said stand with an end of said hose unsupported, and deflector means attached to said hose and comprising a thin rod-like member in the end of said hose extending transversely thereacross, said deflector means being attached to said hose in such a manner that the periphery of the end of said hose is free to expand when the pressure of the fluid is increased and is held in position in said hose when said hose is in an expanded condition.

2,999,645
CAM CONTROLLED PATTERN IMPULSE SPRINKLER
William P. Kennedy, 304 Freyer Drive, Marietta, Ga.
Filed Sept. 8, 1959, Ser. No. 838,576
15 Claims. (Cl. 239—230)

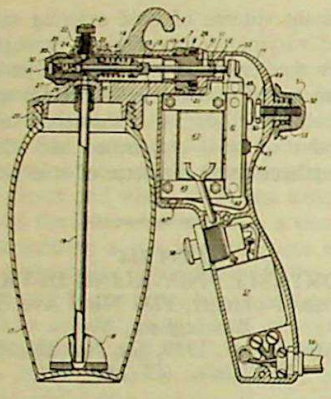
1. A sprinkler having a rotary distribution head, impulse clapper means to rotate said distribution head by means of clapper oscillation, cam means in association with and variably controlling the amplitude of oscillation

of said clapper means, the combination of said means causing said sprinkler to form an area spray pattern and



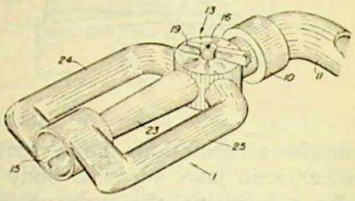
said head to vary in rotational speed during each revolution of said head.

2,999,646
SPRAY GUN
Josef Wagner, Friedrichshafen-Fischbach am Bodensee, Germany, assignor to Charles S. Tanner Company, Providence, R.I., a corporation of Rhode Island
Filed Aug. 26, 1960, Ser. No. 52,147
3 Claims. (Cl. 239—332)



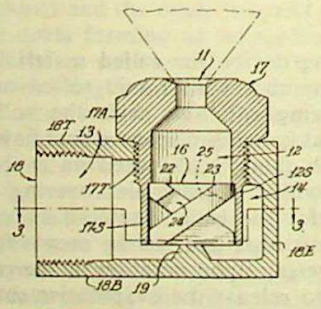
1. A spray gun comprising a housing consisting of a hollow body, an electromagnet secured therein, an armature pivotally mounted adjacent the rear of said magnet and extending upwardly, spring means yieldingly urging said armature toward said electromagnet, a handle extending from the lower portion of said body, a push button switch, manually operated, secured in said handle, electrical connections between said switch, magnet and a source of electricity, a barrel extending horizontally from the top of said body above the top of said magnet, a pump therein, that improvement in said pump which comprises a longitudinal guide tube slidably mounted within said barrel, said pump consisting of a pump cylinder having a stepped axial bore, provided with a valve seat and a radial bore, said pump cylinder secured to said longitudinal guide tube, a pump piston slidably mounted for reciprocating movement within said axial bore, a buffer cap secured to one end of said pump piston, a spring interposed between said buffer cap and said pump cylinder yieldingly urging said pump piston to a suction position, suction action being effected by the reciprocating motion of said piston across said radial bore, a connecting rod slidably mounted in said guide tube and abutting said buffer cap on one end, and said armature on the other end, means secured to the lower side of the front portion of said barrel for holding a depending container, a tube attached to said barrel in communication with said radial bore, the free end of said tube adapted to be immersed in fluid to be sprayed located in said depending container, a closure cap having a nozzle aperature removably secured to said pump cylinder, an atomizing nozzle held against the end of said pump cylinder by said closure cap and positioned to project into said stepped axial bore, a valve head abutting said valve seat, a spring interposed between said valve head and said atomizing nozzle, one end of said pump piston engaging said valve head in opposition to said last mentioned spring, said barrel having a recess, means located in said recess and rotatively engaging said guide tube whereby said guide tube moves horizontally in said barrel and said pump piston moves said valve head away from said valve seat in accordance with the viscosity of the liquid to be atomized.

2,999,647
MIST AND SPRAY PRODUCTION METHOD AND NOZZLE DESIGNS FOR ITS USAGE
Benjamin Sosnick, San Jose, Calif.
Filed Mar. 3, 1958, Ser. No. 718,629
3 Claims. (Cl. 239—468)



1. Fluid emitting device to provide emittent fluid in a continuously variable pattern from a nearly cylindrical stream to a wide angle cone, said pattern further continuously variable from greatest fluid density at the center of the cone to greatest fluid density at the edges of the cone, comprising a generally cylindrical chamber provided with a single fluid outlet and a first fluid inlet disposed to introduce into said chamber a fluid stream coaxial with said outlet, and at least one additional fluid inlet disposed to introduce into said chamber a fluid stream at an angle to the axis of said first stream, conduits for carrying said streams to said inlets and valve means in said conduits for controlling the flow of each of the streams and shutting off either stream without shutting off the other, characterized by said outlet being flared and having a diameter substantially equal to that of said chamber and by said chamber being substantially non-convergent upstream of said outlet.

2,999,648
SIDE INLET CONICAL SPRAY NOZZLE
Fred W. Wahlin, St. Charles, and Edward J. O'Brien, Glen Ellyn, Ill., assignors to Spraying Systems Co., Bellwood, Ill., a corporation of Illinois
Filed Aug. 10, 1959, Ser. No. 832,648
7 Claims. (Cl. 239—487)



1. A side inlet spray nozzle comprising a body having therein a whirl chamber passage and an inlet passage both of which extend inwardly into the body and are disposed in crosswise relation to one another in a common plane substantially at the midwidth of each, the inlet passage being closed at its inner end and the whirl chamber passage having a spray discharge orifice at the outer end thereof from which the whirl chamber passage extends inwardly into the inlet passage at one side thereof and projects therein centrally of the width of the inlet

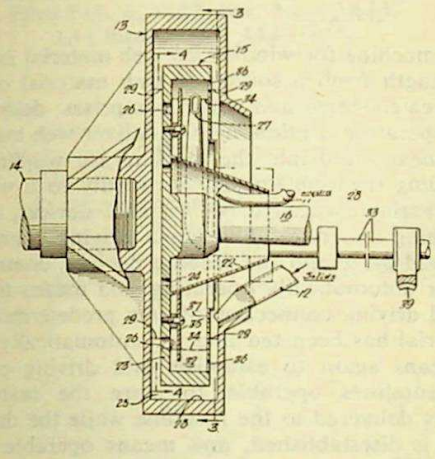
passage toward the opposite side thereof and is open at its inner end to provide an entrance thereto which faces toward said opposite side and is spaced thereform to provide a passage therebetween, the portion of the whirl chamber passage which projects into the inlet passage being defined by a surrounding wall which projects toward and terminates at a distance from said opposite side of the inlet passage to provide said entrance to the whirl chamber passage and said surrounding wall being disposed at a distance from the closed end of the inlet passage to provide the inlet passage with an end space beyond the said surrounding wall and the said surrounding wall being disposed within the inlet passage in a position providing at opposite sides of the aforesaid common plane corresponding and uniform paths of flow at opposite sides of the surrounding wall and between the open inner end of the whirl chamber passage and inner end of said wall and said opposite side of the inlet passage toward and to said end space at the closed end of the inlet passage.

2,999,649

APPARATUS FOR CONTINUOUSLY CRUSHING AND SELECTIVELY DISCHARGING SOLID MATERIALS

Charles S. Radcliffe, Philadelphia, Pa., assignor to Concentro Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 1, 1956, Ser. No. 568,727
11 Claims. (Cl. 241—39)



1. In an apparatus for crushing solid materials, the combination comprising a first centrifugal rotor having a circumferential wall forming the outer wall of a bowl space, means to feed liquid and solids continuously to said bowl space, a second centrifugal rotor eccentrically mounted within the first and having a bowl space with an outer circumferential wall located at least partially within said bowl space of the first in kneading proximity to said first circumferential wall, said bowl space of said second rotor communicating with an inner portion of said bowl space of said first rotor to receive a mixture of liquid and solids crushed between the circumferential walls of said rotors and discharged from said first bowl space into said second bowl space, and means for discharging continuously from an inner portion of said second rotor an effluent comprising said liquid containing solids crushed between said circumferential walls.

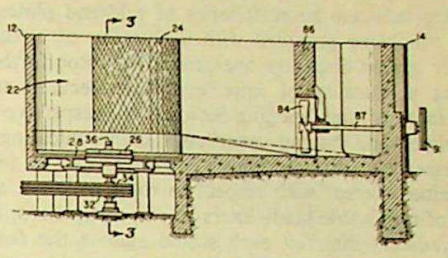
2,999,650

PULPER

Leo Campagnano, Via Borromei 1B/7, Milan, Italy

Filed Nov. 22, 1957, Ser. No. 698,166
6 Claims. (Cl. 241—46)

1. Pulping apparatus for paper stock comprising a tub, a section of said tub set aside for pulping but in communication with the remaining portions of said tub, means in said pulping section for subjecting paper stock to a vigorous hydraulic sheer pulping action including a pulping rotor having first blades thereon for directing said stock outwardly and second blades thereon for



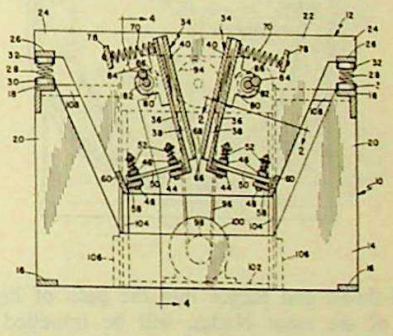
directing said stock upwardly, and separate means for continuously withdrawing from said pulping section and circulating around said tub under conditions of comparatively mild agitation stock components of a predetermined maximum particle size.

2,999,651

SINGLE STAGE ROCK CRUSHER

John D. Ault, El Cajon, and David P. McConnell, Los Angeles, Calif., assignors, by direct and mesne assignments, to Mining Research Corp., Los Angeles, Calif., a corporation of California

Filed July 11, 1958, Ser. No. 747,939
14 Claims. (Cl. 241—218)



1. A single stage rock crusher, comprising: a fixed base frame; a floating frame resiliently mounted on said base frame; a pair of opposed crusher jaws operatively mounted in said base frame and converging at their lower edges to define a throat therebetween; a plurality of support bars resiliently connected at one end thereof to the lower edge of each of said jaws; the other ends of said support bars being resiliently connected to said floating frame; resilient support means interconnecting the upper portions of said jaws with said floating frame; and means for vibrating said jaws toward and away from each other.

2,999,652

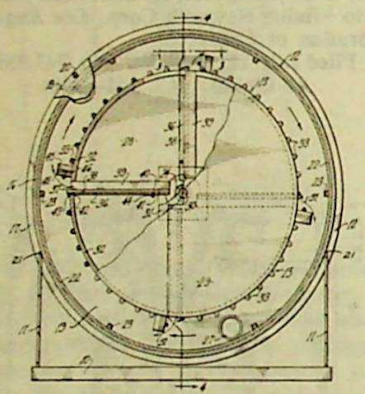
ORE PULVERIZING MILL WITH CENTRIFUGAL IMPACT PULVERIZING ACTION

Ervin J. Dear, 495 N. Bowling Green, Los Angeles, Calif.

Filed July 27, 1959, Ser. No. 829,863
1 Claim. (Cl. 241—275)

An ore processing mill comprising: a housing embodying a circular rim, front and back plates secured to said rim to define a rotor chamber, a cylindrical liner fitted within the rim of said housing, retained by said front and back plates, and having on its inner face a plurality of axially extending barrier bars, said liner and barrier

bars being of extremely hard tough, wear resistant material, a rotor mounted in said chamber coaxially and having a rim spaced radially inwardly from the housing rim to define an annular reducing chamber having a radial width roughly equivalent to ¼ the radius of said rim, said rotor comprising a pair of axially spaced circular end plates and a cylindrical rim secured to and bridging between the peripheries of said end plates, said rotor rim being provided with a plurality of circumferentially spaced discharge apertures, said rotor further including a plurality of impeller blades secured to the inner faces of and bridging between the respective rotor end plates and having outer ends communicating with the respective rotor periphery apertures at the trailing extremities thereof with respect to rotor rotation, a plurality of removable blade liners of extremely hard, tough wear resistant material each seated against the forward face of their respective blade and detachably secured thereto, the inner ends of said blades and blade liners being spaced radially outwardly from the axis of the rotor to define an unobstructed rotor throat for receiving ore chunks, said rotor having an axial inlet through which such ore chunks can be fed into said throat, and said housing having a hopper and a feed opening communicating with said rotor inlet opening for the feeding or ore chunks into said rotor throat, from which said chunks will be drawn through said feed opening and inlet

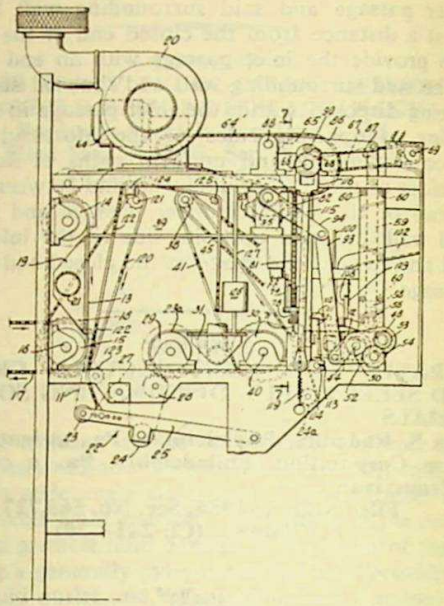


into said throat and thence into the path of high speed rotation of the rotor blades, will be impelled by said blades in circumferentially and outwardly spiralling paths of movement and discharged through said rotor discharge apertures into said reducing chamber, resulting in explosive impact of the ore fragments against said housing rim liner and against said barrier bars thereof whereby reduction of the ore fragments into small particles will be effected, said rotor having, on the periphery of its said rim, a plurality of radially projecting bats of hard, tough, wear resistant material adapted to engage with explosive impact, particles rebounding from said housing rim and to impart to them, additonal impetus in their movement within said annular processing chamber, impelling said fragments tangentially into renewed explosive impact with the housing rim and its said barrier bars, and a plurality of axially extending cylindrical impact bars of hard, wear-resisting material arranged at substantial uniform circumferential spacing between said bats and not more than 15° angular intervals as subtended at the rotor axis, adapted to engage particles rebounding from said housing rim and to impart to them, additional impetus in their movement within said annular reducing chamber, impelling said fragments tangentially into renewed explosive impact with the housing rim and its said barrier bars, said bats projecting radially outwardly beyond said impact bars, a distance roughly half-way for said rotor rim to the inner surface of said housing liner.

2,999,653
MACHINE FOR WINDING LOG ROLL

Henry Ganz, West Englewood, N.J., assignor, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey

Filed Apr. 11, 1957, Ser. No. 652,218
13 Claims. (Cl. 242—56)



1. A machine for winding up web material into rolls of given length from a source of web material of substantially greater length and which comprises: delivery mechanism operating continuously to deliver web material at a given linear speed into the machine for winding, devices for feeding the web linearly forwardly to a windup station, a variable speed drive for said devices, means for establishing and disestablishing a driving connection between said drive and the feeding devices, control mechanism for automatically operating said means to disestablish said driving connection after a predetermined length of material has been fed and for automatically operating said means again to establish said driving connection, instrumentalities operable to store the material continuously delivered to the machine while the driving connection is disestablished, and means operable while the driving connection is disestablished for adjusting the variable speed drive according to the amount of such excess material delivered to operate said feeding devices, upon reestablishment of said driving connection, at a speed higher than the speed of delivery until all the excess material stored by said instrumentalities has been fed forward to the windup station.

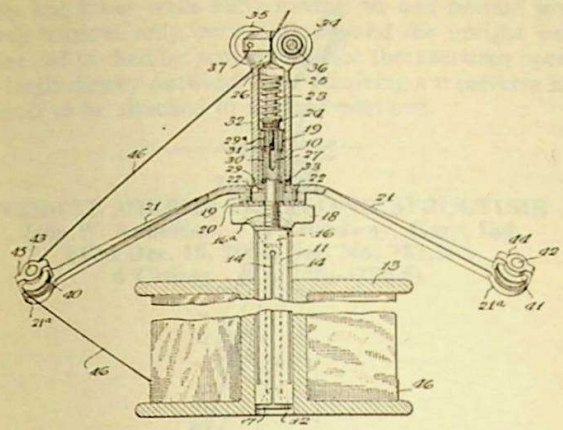
2,999,654
UNWINDING DEVICE

Frederick J. Fuller, Chicago, Ill., assignor, by mesne assignments, to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Oct. 25, 1956, Ser. No. 618,386
4 Claims. (Cl. 242—128)

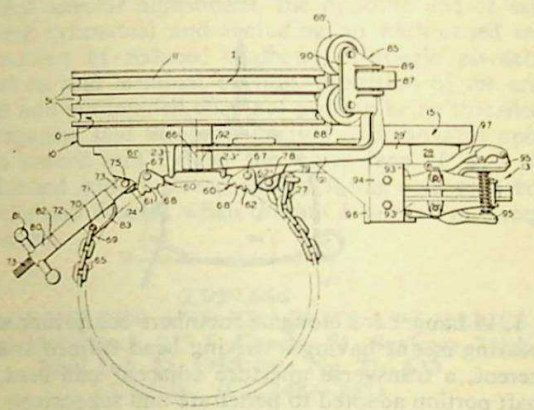
1. A device for controlling the unwinding of a coil of an elongated flexible member comprising: a base member for removably attaching said device in an operative relationship to said coil, a rotatable member supported for rotation by said base member, said rotatable member carrying flexible member guide means spaced from said base member for guiding said flexible member off said coil as said rotatable member rotates about said coil, and means cooperating with said rotatable member and said base member for yieldingly retarding the rotation of said rotatable member including a passage in said rotata-

ble member, locking means arranged to be raised or lowered in said passage, resilient force applying means



arranged to abut against said base member and a spring tension determining member normally received in said passage and bearing against said locking means.

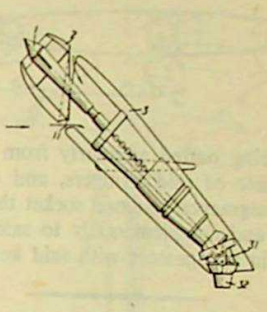
2,999,655
POLE TENSIONER
Gerald A. M. Petersen, 460 Kifer Road, Santa Clara, Calif., Robert W. Goode, Morgan Hill, Calif., and Herschel Robert Gustafson, Spokane, Wash.; said Goode and said Gustafson assignors to said Petersen
Filed Feb. 6, 1959, Ser. No. 791,617
13 Claims. (Cl. 242—155)



1. In a cable stringing and tensioning apparatus of the type including a pair of coplanar bull wheels operatively associated with a brake disc and brake shoes engageable therewith for retarding turning of said bull wheels under the influence of a cable looped about them; a flat triangular shaped frame having bearings at its adjacent angles for supporting said bull wheels for rotation in a common plane, a bearing at the other angle of said triangular frame having said brake disc journaled thereon, means for drivingly connecting said bull wheels to said brake disc for rotating the latter in unison therewith, and clamping means on that face of said flat frame opposite said bull wheels for securing said frame to a power pole.

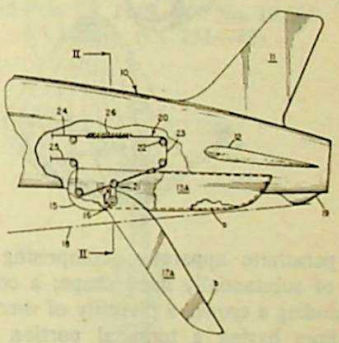
2,999,656
GAS TURBINE ENGINE WITH CANTED VARIABLE GAP AUGMENTARY INTAKE
Peter Arthur Ward, Littleover, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed May 18, 1959, Ser. No. 813,903
Claims priority, application Great Britain Aug. 15, 1958
7 Claims. (Cl. 244—23)

1. A gas turbine engine comprising a compressor and air intake means therefor open at the front end of the engine axis, said air intake means comprising spaced apart wall members which are disposed downstream of the nose of the engine and define between themselves a gap, the wall members being shaped to direct air through said gap and into the air intake means aft of said front end, means effecting relative axial movement of said



wall members so as to close or open said gap and means mounting said engine for selective positioning at and between a forward propulsion position and a vertical lift position, the gap being inclined at an angle to the said axis of the engine and the mounting means having such an axis that the forward edge of the gap is lower than the rearward edge thereof when the engine is vertical.

2,999,657
STABILIZING MEANS FOR AIRCRAFT
John R. Clark, Dallas, Tex., assignor to Chance Vought Corporation, a corporation of Delaware
Filed Feb. 17, 1958, Ser. No. 715,541
2 Claims. (Cl. 244—91)

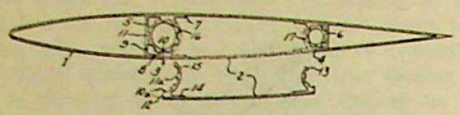


1. For providing added stability during supersonic flight of an aircraft having structure defining a no-damage ground line, a device additional to said structure and comprising, in combination with said aircraft: a symmetrically mounted pair of fixed fins placed in a rearward, ventral location on said aircraft, said fins extending from said aircraft downwardly toward and lying substantially entirely above said ground line; a movable fin positioned inside each of said fixed fins and extensible therefrom; and means for simultaneous extension of said movable fins from said fixed fins prior to high-speed supersonic flight to a position wherein they extend well below said ground line at substantially zero angle of attack and for simultaneous, automatic retraction of the same into said fixed fins and above said ground line prior to landing of said aircraft.

2,999,658
AIRFOIL STRUCTURE
John Pavlecka, 8797 Capital, Oak Park, Mich.
Filed July 16, 1958, Ser. No. 749,005
25 Claims. (Cl. 244—124)

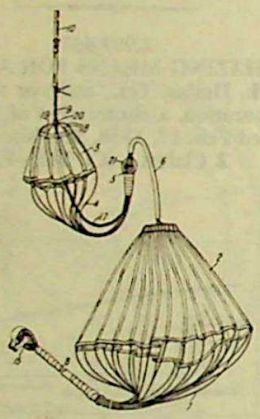
1. In a structure, two panels forming each a part of an airfoil shell in facing positions of each other, string-

ers extending one on each of said panels in spanwise opposed alinement with each other, said stringers bearing longitudinal segmental tenoned sockets alined coaxially with each other, a longitudinally mortised linear key telescoped into engagement with said sockets, said string-



er sockets being parted angularly from one another on one lateral side of said stringers, and a spar having a longitudinal segmental tenoned socket thereon alined coaxially with and complementally to said parted stringer sockets and in engagement with said key therein.

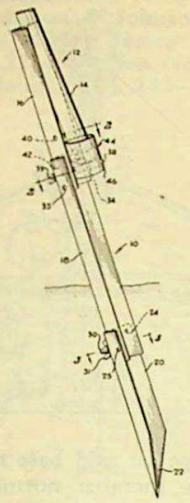
2,999,659
PARACHUTE APPARATUS
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, England
Filed Feb. 6, 1959, Ser. No. 791,680
Claims priority, application Great Britain Feb. 10, 1958
5 Claims. (Cl. 244—141)



2. A parachute apparatus, comprising a deploying member of substantially fixed shape; a controller parachute including a crown, a plurality of shroud lines, each of said lines having a terminal portion secured to a peripheral portion of said crown, and the other terminal portions of said shroud lines being secured to each other, and an anti-squid line having respective ends fastened to said other terminal portions and to a central portion of said crown; a draw line having respective end portions fastened to said deploying member and to said central crown portion; another parachute having a crown; and connecting means secured to said other terminal portions and to the crown of said other parachute.

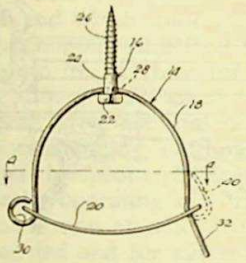
2,999,660
UNIVERSAL FISHING SPIKE
Frank Kurtz, 926 S. Curson Ave., Los Angeles 36, Calif.
Filed Mar. 27, 1959, Ser. No. 802,513
8 Claims. (Cl. 248—48)

8. A universal fishing spike, comprising: a plurality of elongated body members of similar trough-like configuration; means for removably fastening together said body members in aligned end-to-end relationship with one of said members at the upper end; and a socket for receiving the handle of a fishing pole mounted in the upper member inwardly of the upper end thereof and including a short cylindrical member, a tubular member positioned within the cylindrical member so as to extend transversely thereof, and a bolt extending through the cylindrical member, the tubular member and the body member, said bolt being used to alternatively fasten together the members



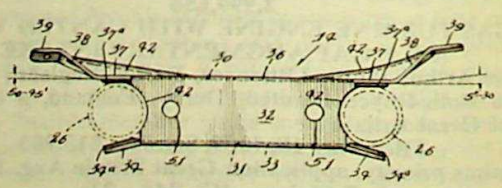
in the end-to-end relationship and in a nested relationship with one on top of the other.

2,999,661
HANGER
William M. Shuter, 7806 Bryn Mawr Ave., Chicago 31, Ill.
Filed June 10, 1959, Ser. No. 819,497
4 Claims. (Cl. 248—62)



1. A hanger for elongate members comprising elongate securing means having a driving head formed at one end thereof, a transverse aperture adjacent said head, and a shaft portion adapted to penetrate and supportably engage a body to which said hanger may be fixed; and an elongate flexible clamp means passing through said aperture and rotatable about the axis thereof, said clamp means having free ends formed for locking engagement whereby the free ends of said clamp means may be locked to form a closed loop engaging and supporting said elongate member.

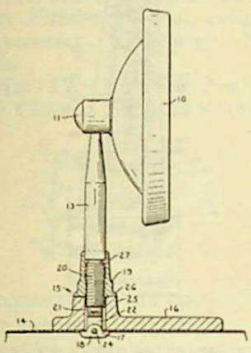
2,999,662
CHAIR STRUCTURE
Richard J. Lappin and Robert G. Mohr, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Aug. 26, 1959, Ser. No. 836,150
11 Claims. (Cl. 248—188)



1. A bracket for a chair chassis or the like, comprising, a generally channel shaped member including an upper

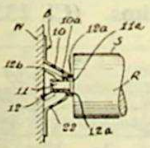
wall, a lower wall spaced below the upper wall and an upright wall connecting the upper and lower walls, said upper and lower walls each having an end portion projecting longitudinally outwardly beyond the upright wall at one end to thereby provide a space therebetween opening longitudinally outwardly for receiving a transverse leg member to be attached to the end portions.

2,999,663
VEHICLE MIRROR MOUNTING STRUCTURE
John W. Anderson, 578 Broadway, Gary, Ind.
Filed Dec. 18, 1958, Ser. No. 781,388
6 Claims. (Cl. 248—220.5)



1. A rear view mirror mounting structure comprising an arm having means at one end for supporting a mirror for limited angular adjustment, the opposite end of said arm being cylindrical and including an unthreaded terminal portion of reduced diameter, a toggle pivotally mounted on said terminal portion, a portion of the arm adjacent said unthreaded terminal portion being threaded, a nut engaging said threaded portion and movable upon rotation toward said toggle, the outer face of said nut being formed with a sleeve snugly fitting said arm and concealing said threads when the nut is turned to clamping position.

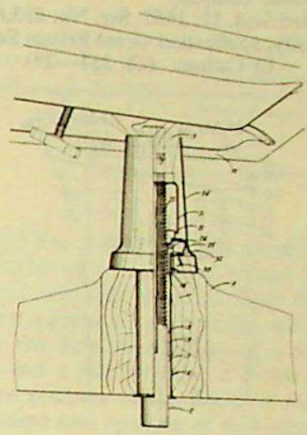
2,999,664
SHADE ROLLER AND BRACKET ASSEMBLIES
Bryson McCulloch, 319 S. Charles St., Saginaw, Mich.
Filed Feb. 21, 1958, Ser. No. 716,630
2 Claims. (Cl. 248—267)



1. A shade roller and bracket assembly comprising; a bracket for attachment to a support having a projecting portion with an opening therein; a roller having a supporting pintle extending from one end thereof received by said opening; and a nylon sleeve conforming to the shape of and fast on said pintle extending into said opening for rotation therein.

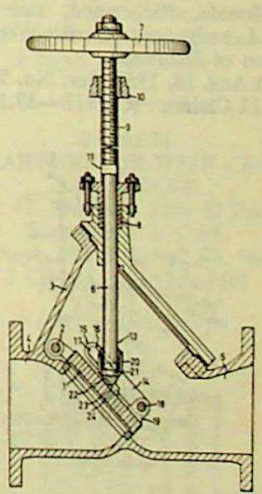
2,999,665
LOCKING ARRANGEMENT FOR SWIVEL CHAIR STRUCTURE
Sidney Albert Ericson, Bridgeport, and Henry Wheeler Parrott, Shelton, Conn., assignors to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut
Filed June 2, 1958, Ser. No. 739,426
8 Claims. (Cl. 248—405)

1. A device for locking a swivel chair seat to a chair base of the type including a screw post having an upper portion connected to said chair seat and having a lower portion operating in said base, a nut supported from said base and manipulatable for rotation for raising and lowering the screw post, the improvement comprising: a



flange member rigidly secured to said base and at least one flexible spring member attached to said nut and adapted to yieldably engage said flange member in locking relation, whereby said chair seat is locked to said chair base.

2,999,666
VALVES
Tore Albert Sjögren, Broby, Sweden, assignor to Aktiebolaget Broby Armaturfabrik, Broby, Sweden, a corporation of Sweden
Filed Feb. 23, 1960, Ser. No. 10,298
5 Claims. (Cl. 251—82)



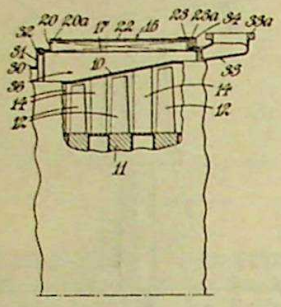
1. A valve comprising a pivotally mounted valve member, a valve stem for actuating the valve member, a link means having a slot therein, said link means having one end articulated on the valve member, a pivot on the end of said valve stem engaged in the slot in said link means, said slot being no wider than necessary to permit sliding of said pivot along said slot, whereby said pivot and valve stem, in addition to transferring pivoting movements caused by the axial movements of the valve stem to the valve member for opening and closing the valve, can be positioned to hold the valve member closed or opened, and can be positioned so that the pivot occupies an intermediate position in the slot, in which position the pivot in combination with the articulation of said link means permits the valve member to swing freely under the influence of the flow conditions through the valve.

2,999,667

PROTECTIVE ARRANGEMENT FOR USE WITH APPARATUS OR MACHINES HAVING ROTATING PARTS

Frederick William Walton Morley, Castle Donington, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed Sept. 12, 1957, Ser. No. 683,629
Claims priority, application Great Britain Sept. 28, 1956
13 Claims. (Cl. 253—39)



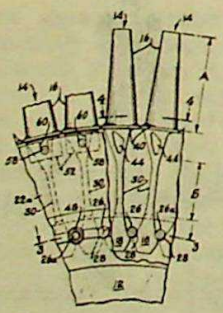
1. A protective device for use with apparatus having a rotating part and stationary structure, said device comprising a tubular liner member which in use of the device surrounds the rotating part, a plurality of layers of interwoven wire encircling said liner member, means supporting said layers of interwoven wire in radially spaced relation to said liner member, an outer tubular wall member surrounding said plurality of layers of interwoven wire, said outer tubular wall member being secured to said liner member, and means for securing the device to the stationary structure of the apparatus.

2,999,668

SELF-BALANCED ROTOR BLADE

Werner E. Howald, Ridgewood, and Otto Hollerith, Wyckoff, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware

Filed Aug. 28, 1958, Ser. No. 757,714
11 Claims. (Cl. 253—39.15)



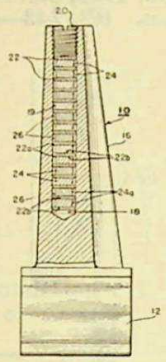
1. A rotor for compressors, turbines or the like comprising a rotor member; a plurality of circumferentially-spaced blades extending radially outwardly from the periphery of said rotor member, each of said blades having a circumferentially-enlarged root end portion with the remaining portion of each blade extending radially outwardly from the radially-outer end of the blade root end portion; and a plurality of circumferentially-spaced pins disposed about the periphery of and extending through said rotor member between the root ends of said blades with each pin engaging a groove in the side of and at the radially outer end of each of the enlarged root ends of the two adjacent blades for supporting the blades against radially outward movement, each blade decreasing in circumferential width radially outwardly of its supporting pins such that the portion of the circumferenece of each pin surrounded by the root end grooves of the two adjacent blades is substantially less than 360° and a substantial portion of the radially outer side of each pin is free of contact with the two blades supported thereby.

2,999,669

DAMPING APPARATUS

Ralph E. McGinnis, Folsom, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 21, 1958, Ser. No. 775,448
8 Claims. (Cl. 253—77)



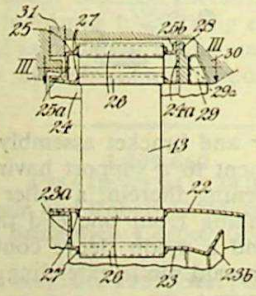
1. A blade including an elongated vane portion of substantially airfoil cross section, said vane portion having an interior wall including opposed surface portions defining a longitudinally extending cavity therein, a plurality of plates snugly fitted within said cavity and arranged in spaced relation to each other so as to divide the cavity into a series of chambers along at least part of the length of said cavity, and a member loosely disposed in each chamber and loosely fitted with respect to said wall so as to be independently movable back and forth into and out of contact with the opposed surface portions of said interior wall.

2,999,670

STATOR CONSTRUCTION FOR ROTARY FLUID MACHINE

Nigel Edward Payne, Burton-on-Trent, and Ernest Frank Sheldon, Ilkeston, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed Oct. 4, 1956, Ser. No. 614,027
Claims priority, application Great Britain Oct. 18, 1955
7 Claims. (Cl. 253—78)



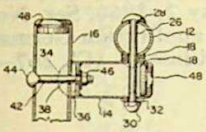
1. A stator for a rotary fluid machine comprising outer stator structure and inner stator structure with an annular working fluid passage therebetween and means interconnecting the inner and outer stator structure including a ring of blades extending across the working fluid passage, which blades are secured at their inner and outer ends in inner and outer shroud rings respectively, each shroud ring comprising a pair of radially spaced sheet metal walls which are joined together at their axially-spaced edges and which have slots through which the blade ends pass, the blade ends being rigidly secured

to both walls of each shroud ring as by brazing, the inner shroud ring being secured to said inner stator structure and the outer shroud ring being provided with a ring of circumferentially-spaced axially-projecting radially-extending dogs, a ring of circumferentially-spaced radially-extending elements rigid with the outer stator structure, which elements extend circumferentially between said dogs to locate the outer shroud ring circumferentially and coaxially within the outer stator structure with freedom for radial expansion, and means locating the outer shroud ring axially with respect to the outer stator structure.

2,999,671
HANDRAIL CONNECTION

James H. Blayden, Pittsburgh, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 17, 1959, Ser. No. 799,882
3 Claims. (Cl. 256—65)

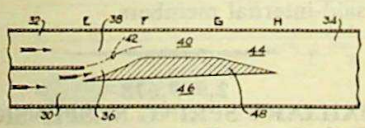


1. In a railing connection, the combination comprising a rail member and a spacing member in juxtaposed relationship, a pair of saddle members interposed the rail and spacing members, said saddle members having flat terminal end mating surfaces contacting each other and an end of each opposite thereto in contact one each with the rail member and the spacing member adjacent thereto, an interconnecting element extending axially through the rail, spacing and saddle members, said interconnecting element having its axis disposed normal to the plane of the flat mating surfaces of the saddle members, and means securing the interconnecting element to rigidly unit the rail, spacing and saddle members in desired angular adjustment of the rail and spacing members about the axis of the interconnecting element.

2,999,672
FLUID MIXING APPARATUS

Daniel L. Harshman, Cedar Grove, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed Apr. 9, 1958, Ser. No. 727,468
6 Claims. (Cl. 259—4)

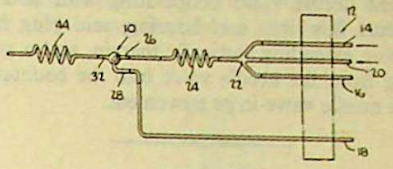


1. Apparatus for mixing fluids; said apparatus comprising a first passageway for a first fluid; a second passageway for a second fluid having a velocity which in general is different from that of said first fluid; a third passageway into which said first and second passageways discharge; and a passageway having its entrance opening directed substantially upstream into the fluid flow of said second passageway and having its outlet opening arranged to discharge in a substantially downstream direction into the fluid flow of said first passageway for diverting a portion of said second passageway fluid into said first passageway at a point upstream of the junction of said first and second passageways with said third passageway, downstream of said flow diverting passageway the cross-sectional area of said first passageway being such that the fluid of said first passageway and the diverted fluid of said second passageway converge to a throat region.

2,999,673
LIQUID MIXING MEANS

Gerald Kessler, Tarrytown, N.Y., assignor to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York

Filed Aug. 5, 1959, Ser. No. 831,860
5 Claims. (Cl. 259—7)

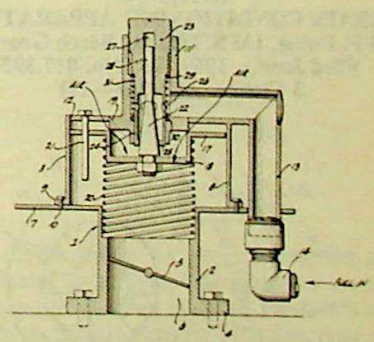


1. In a fluid flow system having a supply tube for the flow therethrough of a segmented stream comprising a series of liquid segments separated from each other by an intervening segment of an inert gas and another supply tube for the flow therethrough of a stream of another liquid, and a delivery tube; a device for intermixing successive portions of the liquid of said segmented stream and successive portions of said other liquid during the flow of said streams, comprising a chamber having a non-magnetic wall and positioned between said supply tubes and said delivery tube at the confluence of said streams, said chamber having an inlet for each of said streams connected to said supply tubes, respectively, and an outlet for the intermixed liquids connected to said delivery tube, said chamber being closed except at said inlets and said outlet and having a volume in relation to the rates of flow of the incoming streams and a shape which prevent the entrapment of the incoming gas segments in said chamber, whereby the outgoing stream of intermixed liquids comprises a series of segments of the intermixed liquids separated from each other by an intervening segment of the inert gas, and a magnetic mixer member disposed in said chamber and freely movable therein by magnetic action through said non-magnetic wall of the chamber for intermixing the liquids during the flow thereof through said chamber.

2,999,674
FUEL CARBURETOR WITH CENTRAL AIR INTAKE

Harry W. McClain, 5460 El Parque, Long Beach 4, Calif.

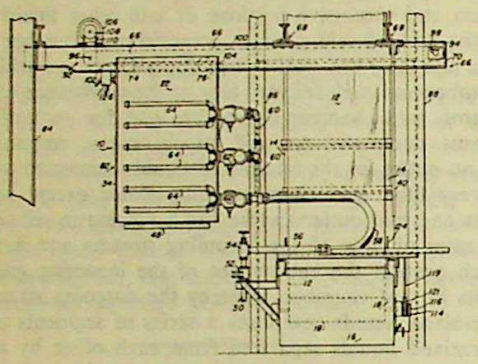
Filed Sept. 29, 1958, Ser. No. 764,074
3 Claims. (Cl. 261—50)



1. A fuel carburetor comprising a housing, said housing having a mixture outlet thereon and a connection means to attach the same to an intake manifold, a central tube on the housing arranged substantially in alignment with the vertical center line of the housing, a fuel intake pipe extending into said tube above the lower end thereof, said housing having air passages in the top thereof surrounding said tube, a ring-shape air valve within the housing cooperatively associated with said tube and said air passages to close the air passages in one position of

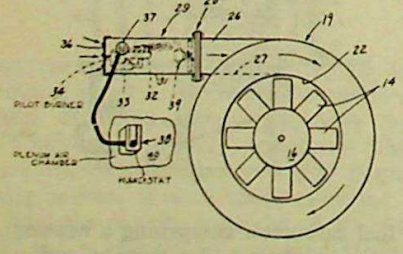
the air valve, spring means bearing against the air valve to urge the same to closed position, a plug threaded into said tube and longitudinally adjustable within the tube, a sleeve depending from the plug, said sleeve having fuel ports extending through the wall thereof to admit fuel from said fuel intake pipe, seat means in the sleeve, a needle valve, means mounting the needle valve on the air valve, said needle valve cooperating with said seat to control fuel flow into said housing, said plug having a counterbore extending vertically therein, and a guide rod extending from the needle valve into the counterbore to guide the needle valve in its movement.

2,999,675
PRE-HEATER OR FURNACE ASSEMBLY
John E. Erhardt, Jr., and Elhardt M. Siegel, Baltimore, Md., assignors, by mesne assignments, to Selas Corporation of America, a corporation of Pennsylvania
Filed Nov. 13, 1953, Ser. No. 391,858
15 Claims. (Cl. 263—3)



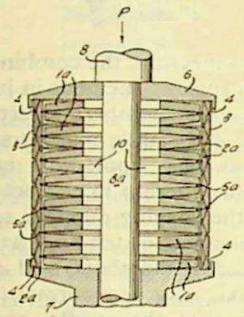
14. An apparatus for heat treating a continuous moving length of work comprising, a movable heater surrounding said work and having a plurality of heating elements, means to mount said heater for movement from a first position surrounding said work to a second position removed beyond one edge of said work, means for heating said elements and means responsive to a change in the rate of movement of the work to retract the heater assembly laterally from its first position to its second position entirely removed from said work.

2,999,676
GRAIN CONDITIONING APPARATUS
Ewell F. Ewing, 133 S. 10th St., Beech Grove, Ind.
Filed June 1, 1959, Ser. No. 817,395
3 Claims. (Cl. 263—19)



1. Apparatus for introducing heated air into a grain storage bin comprising a cylindrical tube, a fan and an electric drive motor therefor mounted within said tube coaxially therewith for moving air through the tube, the air outlet end of said tube being adapted to communicate with the grain storage bin, an annular tubular member having a generally spiral cross-sectional configuration in a plane parallel to the axis of said tube and supported on said tube in spaced relation with the air inlet end thereof, said annular member having spaced, overlapping marginal areas disposed at the inner circumference thereof, the diameter of said annular member at its inner circumference being at least equal to the inside diameter of said tube, said spaced marginal areas providing an annular passage communicating with the interior of said annular member, and means for introducing hot gases under positive pressure peripherally into said annular member, whereby the hot gases enter said tube only at the peripheral area thereof and unheated air is drawn into said tube through the space between said tube inlet end and said annular member thereby moderating the temperature rise of said tube and said drive motor.

2,999,677
SPRING CONSTRUCTION
Karl Schindler, Frankfurt am Main, Germany, assignor to Henschel-Werke G.m.b.H., Kassel, Germany
Filed May 2, 1960, Ser. No. 26,138
Claims priority, application Germany May 2, 1959
10 Claims. (Cl. 267—2)

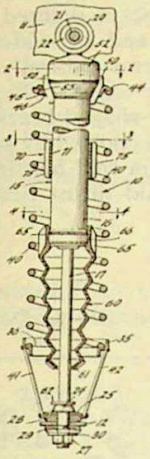


1. A spring column comprising a plurality of ring-shaped spring elements including alternate external and internal members having respective interior and exterior wedge-shaped surfaces in sliding contact with each other whereby loading causes relative movement of said internal and external members and expansion of said external members, said internal members each including a central inwardly projecting portion, and a set of dish-shaped spring elements cooperating with each of said internal members, including one dish-shaped element inverted above the other and having their opposite faces abutting at the peripheries thereof against said inwardly projecting portions of said internal members.

2,999,678
AUXILIARY SPRING SUSPENSIONS
John E. Heckethorn, Dyersburg, Tenn., assignor to Heckethorn Manufacturing & Supply Company, Dyersburg, Tenn., a corporation of Colorado
Filed Sept. 8, 1959, Ser. No. 838,726
9 Claims. (Cl. 267—8)

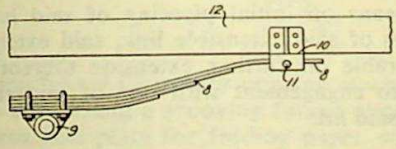
1. A damped resilient suspension device for connection between sprung and unsprung members comprising, in combination, a shock absorber of the direct acting type having a telescoping cylinder and piston rod, the piston rod issuing through a packed opening in the inner end of said cylinder, means for securing the outer or remote end of the cylinder of the shock absorber to one of said members and means for securing the remote end of the piston rod to the other of said members; a coil supporting spring surrounding said shock absorber, an annular spring seat carried by said shock absorber cylinder near its remote end, and an annular spring seat carried by the remote end of the piston rod, the coil spring being compressed between said seats and adapted to surround the greater portions of both the cylinder and piston rod in

all positions thereof; a bellows-like boot element of rubber-like material having a restricted neck portion at one end thereof snugly and elastically received about the inner end portion of said cylinder, and an annularly pleated main portion extending away from said inner end portion of the cylinder to surround and afford protection to the variably exposed portions of said piston rod, said neck portion of the boot having a maximum outside diameter at least as great as that of any of the pleated portions



of said boot element, said neck portion itself acting as a buffer between the inner end portion of the shock absorber cylinder and the intermediate surrounding convolutions of the coil spring; and a supplemental buffer element comprising a relatively narrow annular band of rubber-like material surrounding an intermediate portion of said shock absorber cylinder to prevent abrasive contact between the intermediate portion of the cylinder and the convolutions of the spring surrounding said portion.

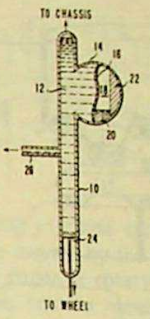
2,999,679
SPRING MOUNT
Jürgen Ulderup and Franz Gottfried Reuter, Lemforde, Hannover, Germany, assignors, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 12, 1957, Ser. No. 652,571
Claims priority, application Germany Apr. 17, 1956
4 Claims. (Cl. 267—49)



1. A spring mount comprising, in combination, a base made of rubber, said base having perforations therein, and adapted to guide a leaf spring and a layer of rubber-like polyurethane superposed on said base and attached thereto through a plurality of projections which are integral with said rubber-like polyurethane and project into said perforations in said base to lock the rubber-like polyurethane thereto.

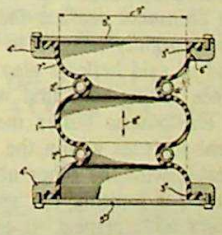
2,999,680
PNEUMATIC SPRING SUSPENSION
Bernhardt J. Eiseman, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 24, 1959, Ser. No. 795,142
10 Claims. (Cl. 267—64)

1. A pneumatic load-bearing spring having a gas suspension chamber for a load-supporting gas, said suspension chamber containing under load-induced pressure (1) a condensing gas which consists of at least one substantially non-toxic inert compound capable of existing in both the liquid phase and the gaseous phase under the operating conditions of temperature and pressure of said chamber, which condensing gas has a vapor pressure equal to from about 10% to about 90% of the total pressure at the normal operating pressure level of said chamber; (2) a non-condensing gas which consists of at



least one substantially non-toxic, inert gas which by itself is capable of existing in only the gaseous phase under the operating conditions of temperature and pressure of said chamber and which non-condensing gas is present in an amount to provide that part of the total pressure in said chamber which is in excess of that provided by the condensing gas; and (3) a pool of said condensing gas in liquefied state occupying a minor fraction of the volume of said chamber.

2,999,681
SPRING BELLOWS FOR AIR SPRING SYSTEMS
Josef Müller, Stuttgart-Riedenberg, Friedrich H. van Winsen, Kirchheim-Teck, and Alfred G. Zimmer, Stuttgart, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Mar. 15, 1957, Ser. No. 646,373
Claims priority, application Germany Mar. 27, 1956
5 Claims. (Cl. 267—65)

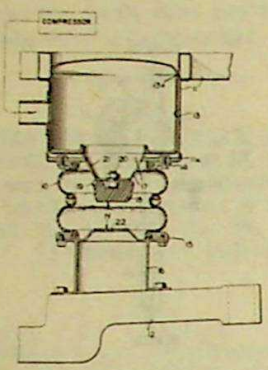


1. A bellows spring for pneumatic spring systems of motor vehicles comprising bellows means having an axis extending in the direction of spring movement and having connecting portions, a plurality of sealing plate means and annular connecting means cooperating with said connecting portions for retaining said bellows means against said sealing plate means, the portions of said bellows means immediately following said connecting portions extending from said connecting portions in directions toward said axis forming angles not exceeding 30° in the normal rest position of the spring with the direction of spring movement, said connecting portions abutting the radially inmost surfaces of said connecting means, said radially inmost surfaces extending essentially in the direction of spring movement.

2,999,682
PNEUMATIC SPRING SYSTEM FOR MOTOR VEHICLES

Eugen Stump, Stuttgart-Unterturkheim, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Sept. 16, 1957, Ser. No. 684,006
Claims priority, application Germany Sept. 19, 1956
5 Claims. (Cl. 267—65)



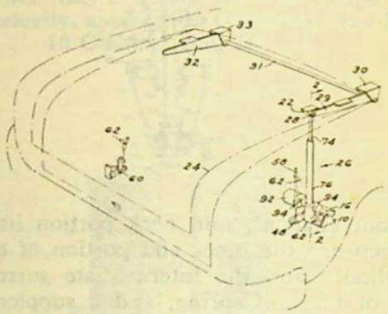
1. A pneumatic spring system, especially for heavy-duty motor vehicles, comprising a frame member and an axle member movable relative to one another, pneumatic means suspending said frame member on said axle member including spring bellows and a relatively rigid reservoir tank for a pneumatic medium located between said two members, said reservoir tank being rigidly secured to said frame member and disposed outside of, but immediately adjacent to, the spring bellows, an apertured support means rigidly secured to said tank at one end of said bellows and defining a wall between the interiors of said spring bellows and said tank and having at least one large aperture providing free passage therethrough in both directions at all times of pressurized pneumatic medium between all parts of said interiors, said tank being of large volume relative to said bellows to provide in combination with said bellows a pressure medium chamber of a total volume substantially greater than the volume of said bellows, means for maintaining a pneumatic medium under pressure in said interiors, said apertured support means projecting into said bellows and providing a central abutment surface facing the interior of said bellows, means rigidly secured to said axle member at the other end of said bellows also defining a central abutment surface facing said first mentioned abutment surface, and elastomeric buffer means secured to one of said abutment surfaces within the interior of said bellows and engageable with the other abutment surface to provide a cushion for limiting the spring movement of said two members with respect to each other, said aperture providing a substantially unimpeded passage between said interiors when said buffer means and said other abutment surface are in engagement.

2,999,683
AUTOMATIC LUGGAGE COMPARTMENT LID CONTROL SYSTEM

Joseph Pickles, Dearborn, Mich., assignor to Ferro Stamping Company, Detroit, Mich., a corporation of Michigan

Filed Dec. 23, 1958, Ser. No. 782,440
2 Claims. (Cl. 268—74)

1. A lifting and unlatching device for the lid of a vehicle luggage compartment provided with latch means having a movable latch release member for holding the lid latched in closed positions, said device comprising a U-shaped bracket mounted in a fixed position within the luggage compartment with the ends thereof extending toward the lid, a lever including a pair of lever arms and a transversely extending connecting member rigidly maintaining the lever arms in spaced apart relation, one of said lever arms being longer than the other, pivot means extending through said lever arms and bracket ends pivotally supporting the lever between the bracket ends, stops secured to said bracket extending between the ends thereof and engageable with the lever at each side of the pivot means to limit pivotal movement thereof, a second U-shaped bracket secured to the lid, an axially extensible link one end of which is pivotally secured between the lever arms centrally of the longer of the lever arms, the other end of which extends between the ends of the second U-shaped bracket, said extensible link including a housing supported by said second pivot means, a thrust bearing within said housing, a screw shaft rotatably supported by said thrust bearing, worm and worm



gear drive means for said screw shaft operably associated therewith, an extensible tube sleeved over said screw shaft having a high efficiency ball nut fixed to one end thereof in engagement with the screw shaft operable to permit manual movement between the tube and screw shaft on application of an axial force therebetween and providing for automatic movement therebetween on rotating of the screw shaft by the worm and worm gear, third pivot means securing the other end of said extensible tube between the ends of said second bracket, and a cable connected between said latch release member and the end of the long lever arm remote from the pivot connection thereof to the first mentioned bracket for releasing said latch means on initial pivoting of said lever on initial extension of said extensible link, said extensible link being operable on further extension thereof to pivot the lever into engagement with one of said stops and then to open said lid.

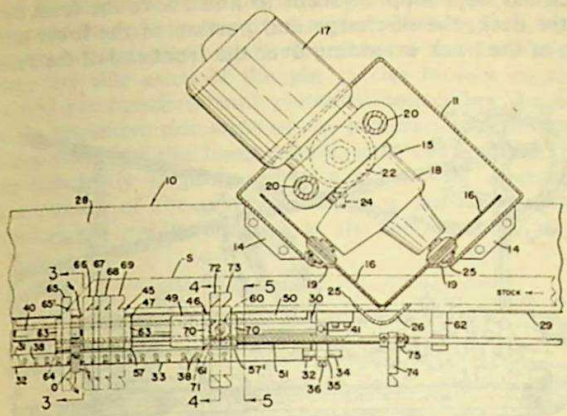
2,999,684
CUTTING GAUGE FOR FRAME PARTS

James L. Kovalcik, 325 Elknud, Johnstown, Pa.

Filed Feb. 4, 1959, Ser. No. 791,224
3 Claims. (Cl. 269—192)

1. In combination with a table, a cutting gauge for measuring frame pieces of material for a storm window or door comprising, a graduated scale bar mounted longitudinally of said table, a main gauge block mounted on said table for movement along said scale bar, a master gauge bar rotatably mounted on said block for movement over said table, cooperating means on said main gauge block and said scale bar to position and lock said gauge block, a secondary gauge block mounted for movement along said scale bar, a gauge bar rotatably mounted on said secondary block for movement over said table, a stationary longitudinal rack bar on said table, a laterally spaced rack bar carried by said main gauge block, and a

pinion on said secondary gauge block meshing with both said rack bars, whereby movement of said main block



will cause a predetermined fractional movement of said secondary block in the same

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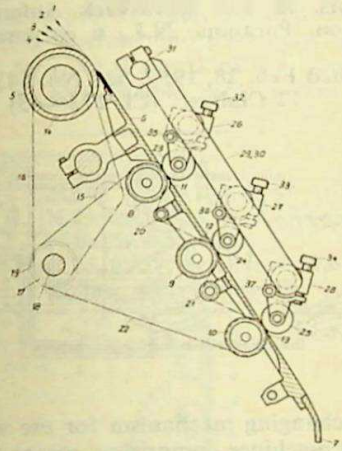
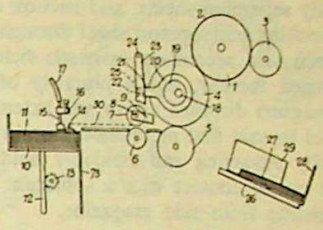


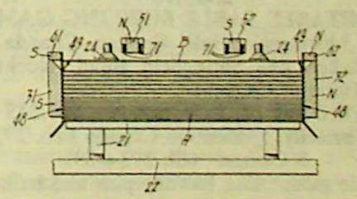
1. A grooving funnel for rotary printing machines and like apparatus comprising a grooving funnel plate, a funnel roll adjacent said plate for feeding paper webs onto said plate, said plate having a plurality of recesses therein, tension cylinders extending into said recesses with the exterior surfaces of said tension cylinders lying substantially flush with said plate, a plurality of pressure rollers, mounting means for said rollers supporting said rollers adjacent and in alignment with said tension cylinders so that folds will be prevented from forming in paper webs passing between said tension cylinders and said pressure rollers, said mounting means including a support for said pressure rollers, a shaft for said support, means rotatably adjustably securing said support on said shaft so that upon rotation of said support all of said pressure rollers will be adjusted simultaneously relative to said plate and said tension cylinders, said mounting means further including a two-part holder pivoted to said support for each of said pressure rollers, and adjusting screw means provided for each holder for individually adjusting each of said holders and the respective pressure roller relative to said plate.

2,999,686
FEEDING APPARATUS FOR ROTARY PRINTING MACHINES
Leslie H. Cheeseman, Rickmansworth, and Frederick E. Lingard, Hemel Hempstead, England, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 26, 1959, Ser. No. 789,184
Claims priority, application Great Britain Jan. 28, 1958
7 Claims. (Cl. 271—11)



1. A rotary printing machine comprising in combination a frame, a table carried by the frame for supporting a stack of sheets of paper, a rotary printing couple supported by the frame, suction means for lifting the top sheet from the stack and presenting it to the printing couple, said means including a suction pad adapted to engage the top sheet of the stack, a carrier for the pad, drive means for moving the carrier, guiding means for the carrier, said guiding means embodying a slide, a first upwardly extending guideway and a second substantially horizontally extending guideway, the two guideways intersecting and the slide being arranged for movement along the guideways, there being a block slidably fitted within the horizontally extending guideway and having a recess therein for receiving the slide which is adapted to fit slidably in the first guideway, the arrangement being such that the carrier is moved first upwardly and then laterally to present a sheet to the printing couple and then in reverse direction to return the pad into position for engaging the next sheet and such that, during the feeding operation, the slide moves upwardly along the upwardly extending guideway into the recess in the block and then the block together with the slide is moved along the horizontally extending guideway.

2,999,687
SHEET FEEDER
William B. Hommel, Penn Yan, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 23, 1958, Ser. No. 782,543
4 Claims. (Cl. 271—18)



1. In a sheet feeding machine, the combination of a magazine for holding a horizontal stack of magnetizable sheets, a plurality of horizontally disposed magnets extending along the opposite sides of the stack of sheets at a level below the line of feed of the topmost sheet to be fed from the stack, said magnets constituting a lower strata magnetic field operable to magnetize the sheets to set up a repelling force therebetween to vertically separate the sheets in the upper portion of the stack, a plurality of horizontally disposed magnets supported by said first mentioned magnets and extending along said opposite sides of the stack of sheets at the level of said line of feed and constituting a secondary upper strata magnetic

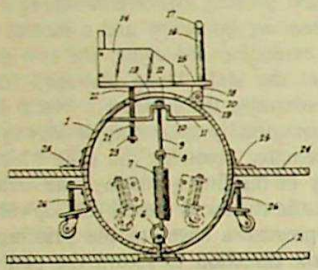
field operable to magnetize said topmost sheet to set up a sheet repelling force therein to prevent feeding of more than a single sheet from the stack, means for engaging and elevating said topmost sheet into between the magnets of said secondary magnetic field to be magnetized thereby, said first mentioned lower strata magnets being cut away at their upper ends to provide a pair of parallel air gaps above the opposite sides of said stack of sheets, said air gaps having a magnetic field of reduced intensity to restrict the vertical level of the topmost sheet of the magnetically separated sheets, said suction means engaging and elevating said topmost sheet through said air gaps into between said secondary magnetic field magnets to be magnetized thereby, and a plurality of horizontally disposed magnets disposed above and extending between and parallel to said first mentioned plurality of magnets for vertically attracting and yieldably holding said topmost sheet out of contact with a subjacent sheet for individual feeding from said magazine.

2,999,688

AMUSEMENT RIDING DEVICE FOR CHILDREN

Harold M. Gabrielson, Merced, Calif., assignor of one-half to Pentecostal Church of God, Merced, Calif., an unincorporated association

Filed June 30, 1959, Ser. No. 823,887
5 Claims. (Cl. 272—33)



1. An amusement riding device for children comprising a base, a body having a spherical lower portion resting on the base, means securing the body in connection with the base for simultaneous rocking and rotating motion, means to limit the extent of rocking motion of the body, said last named means being a plurality of spring-loaded upwardly yieldable caster units attached in circumferentially spaced relation on the body in adjacent but normally spaced relation to the base, a seat above the body, and means mounting the seat on the body.

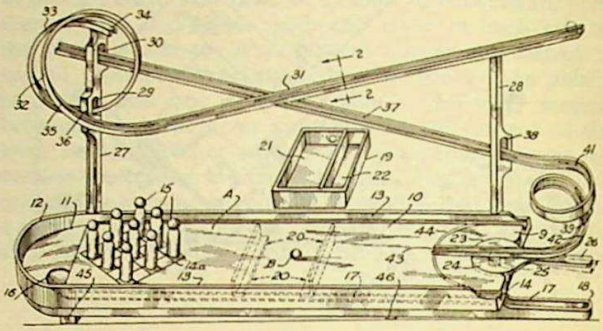
2,999,689

PORTABLE TABLE BOWLING GAME

Victor W. Litwinczuk, Hull, Quebec, Canada (% Mr. Massy Baker, 464 Springfield Road, Rockcliffe, Ottawa 2, Ontario, Canada)

Filed July 24, 1959, Ser. No. 829,245
Claims priority, application Canada Feb. 27, 1959
3 Claims. (Cl. 273—39)

1. A table game using bowling pins and balls comprising a playing deck, a well having an orifice in the floor thereof and underlying the rear end of the deck, a wall partially surrounding the well and forming a backstop, lateral walls on the deck, a channel below the deck communicating at one end with the orifice, the other end of the channel projecting beyond the front of the deck, a diagram on the deck denoting the position of bowling pins, an elevated track formed of an upper and a lower portion arranged diagonally across each other and inclined in opposite directions, with the ball-receiving end of the upper portion of the track located adjacent the front end of the deck, and with the ball-receiving end of the lower portion of the track adjacent the rear end of the deck, the upper portion of the track having a loop located adjacent and above the rear end of the deck and formed with a discharge lip overhanging the upper end of the lower portion of the track, the lower portion of the track having a loop adjacent to and above the front end of the deck, the discharge end portion of the lower portion of the track extending over the front end of the deck,



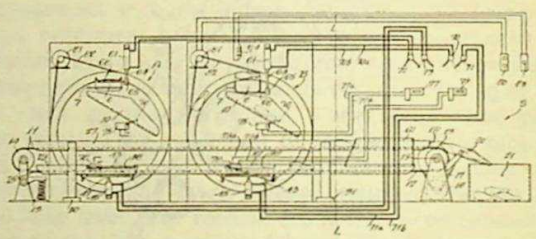
means for oscillating said discharge end portion through an arc over the front end of the deck to align the said discharge end portion with any selected bowling pin during the period the playing ball is travelling on the lower portion of the track, and means for supporting the two portions of the track above and adjacent one of the lateral walls of the deck.

2,999,690

BOWLING PIN CHANGING MECHANISM

William F. Huck, Forest Hills, N.Y., assignor, by mesne assignments, to The Brunswick Automatic Pinsetter Corporation, Paramus, N.J., a corporation of Delaware

Filed Feb. 28, 1957, Ser. No. 643,157
12 Claims. (Cl. 273—43)



1. A pin changing mechanism for use with a plurality of pinsetting machines comprising, means for discharging pins out of each of said machines, means for discharging pins into each of said machines, a conveyor extending along the rear of said plurality of machines and associated with both said means for carrying pins toward the machines from a pin storage area remote from the machines in one operation and in another operation carrying pins toward the pin storage area from the machines, and means including manually operable controls for selectively operating said first and second-mentioned means of each machine independently.

2,999,691

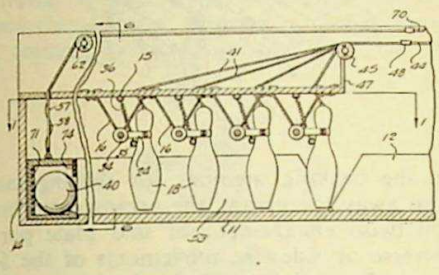
BOWLING GAME PIN ELEVATING AND BALL RETURNING APPARATUS

Charles J. Utley, 600 N. 10th Ave., Kelso, Wash.

Filed Nov. 6, 1959, Ser. No. 851,315
6 Claims. (Cl. 273—44)

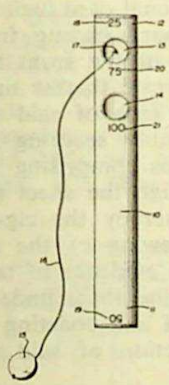
4. In a bowling game apparatus, an alley, a horizontal support mounted at the end of the alley and being spaced sufficiently above the alley to receive bowling pins in upright positions therebeneath, a plurality of depending pin assemblies secured to said support and being arranged

in a generally triangular array, each bowling pin assembly comprising a pair of spaced transversely aligned hanger bars, a generally U-shaped bowling pin carrier, said hanger bars being provided with enlarged generally diamond-shaped eye members at their bottom ends, transversely aligned pivot shaft elements on the ends of the respective side arms of the pin carrier loosely engaging in said eye members and pivotally connecting the ends of the respective side arms of the pin carrier to the lower end portions of the hanger bars, said eye members being sufficiently large to allow a substantial amount of free motion of the pivot elements, a normally vertical bowling pin rigidly secured at its neck portion to the



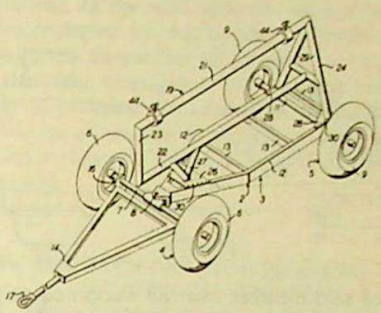
bight portion of the pin carrier, a toggle spring connecting a point on the bowling pin normally subjacent its neck portion to a point on said horizontal support located above and between said hanger bars, whereby said spring at times supports the bowling pin in a substantially horizontal position, said support being formed above the pins with respective apertures located rearwardly of the positions assumed by the top ends of the pins when the pins are horizontal, and flexible cable means connected to the top ends of the bowling pins and extending slidably through the respective apertures and extending forwardly therefrom, whereby the pins may be simultaneously returned to vertical positions by exerting tension simultaneously on said flexible cable means.

2,999,692
GAME APPARATUS
Anthony R. Di Pietro, 3421 St. Ambrose Ave., Baltimore, Md.
Filed Dec. 15, 1959, Ser. No. 859,641
1 Claim. (Cl. 273—97)



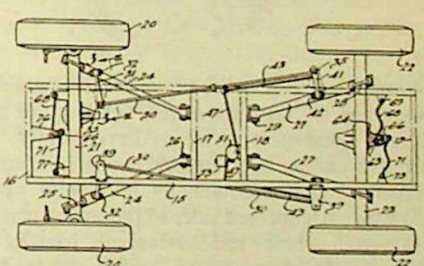
A device of the character described comprising an open-ended cylindrical body having additional openings in the side thereof, a ball receivable in either end of said body, said additional openings being of slightly less diameter than the diameter of said ball and being longitudinally spaced and positioned adjacent one end of said body, and a cord interconnecting said ball and said body, the juncture between said cord and said body being diametrically opposite the outermost of said additional openings, the outermost of said additional openings being the opening adjacent said one end of said body, and said body having indicia thereon adjacent each of the openings and adjacent each open end thereof.

2,999,693
TRAILER-MOUNTED MISSILE RACK
John R. Thorson, Takoma Park, Md., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Apr. 24, 1959, Ser. No. 808,684
10 Claims. (Cl. 280—29)



1. In a trailer for transporting bombs and missiles, a chassis including a frame supported on front and rear wheel and axle assemblies, means pivotally connecting the front wheel and axle assembly to said frame, a drawbar connected to said front wheel and axle assembly, an adaptor frame mounted on said chassis frame and comprising vertically spaced upper and lower beams, a missile rack comprising end plates interconnected by beam members, said plates having leg portions straddling said upper and lower beams, and arcuate cradles on said end plates to support missiles.

2,999,694
SPRING SUSPENSION FOR MOTOR VEHICLES
William D. Allison, 39 Radnor Circle, Grosse Pointe 36, Mich.
Filed Apr. 12, 1954, Ser. No. 422,371
21 Claims. (Cl. 280—104)

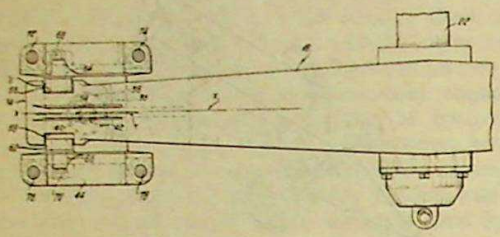


1. In a vehicle structure having front and rear wheels, swinging lever arm means for each wheel responsive to vertical motion thereof, longitudinal torsional spring means common to said wheels and connected to said lever arm means for torsional deflection thereby, and means for vertically spacing a portion of one lever arm means from a part of the vehicle structure including a rigid vertical transmitting link having rolling articulate connections at opposite ends with said portion of the lever arm means and said part of the vehicle structure.

2,999,695
SUSPENSION FOR TANDEM AXLE ASSEMBLY
Leo A. Bixby, Niles, and Clarence C. Bartell, Dearborn, Mich.; said Bixby assignor to Rockwell-Standard Corporation, a corporation of Pennsylvania
Filed Oct. 18, 1957, Ser. No. 691,080
10 Claims. (Cl. 280—104.5)

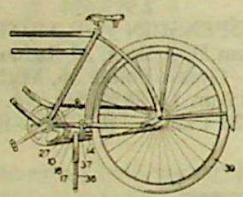
5. In a tandem axle assembly for a vehicle, two spaced transverse axles supported at opposite ends by ground engaging wheels, suspension means comprising longitudinal members at opposite sides of the vehicle rockably mounted intermediate their ends, and means connecting

the ends of the axles to the ends of said members for substantially universal relative movement comprising a rocking bottom connection between each end of each member and the associated axle and coacting vertically slidably displaceable trunnion side connections between each end of each member and the associated axle, said connections comprising cooperating engaged parts on



each end of said member and the associated axle which prevent relative movement between said axles and the ends of said members in a direction longitudinally of said members while permitting vertical sliding movement at said connections, and the trunnions at each axle end being aligned with each other on axes substantially parallel to the axle.

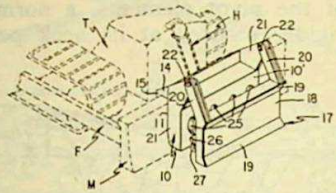
2,999,696
KICK-STAND AND PARKING BRAKE FOR BICYCLES AND SIMILAR VEHICLES
Leo A. Ringelstetter, Plain, Wis.
Filed Aug. 5, 1959, Ser. No. 831,886
6 Claims. (Cl. 280—296)



1. A combination rear tire brake and kick-stand having a forward and rearward movement for bicycles and similar vehicles comprising, a casing having sides, a closed forward end and an apertured rearward end, an angular kick-stand having a substantially horizontal upper arm extending through opposed sides of the casing and swivelly secured thereto, a brake rod substantially parallel with the longitudinal axis of the casing having one end thereof slidably extended through the aperture of said rearward end of the casing, the other end carrying a U-shaped member in communication with the upper arm of the kick-stand within said casing, said U-shaped member having its legs extending forwardly and having a cam seat in the bight portion thereof and a slot in the upper leg, a cam secured to the upper arm of the kick-stand communicable with the said slot and normally in pressure engagement against the cam seat to place said brake rod in extended position, spring means between the cam seat and the rearward end of the casing to urge said brake rod to a retracted position when the cam is in communication with said slot, means for securing said casing to the frame of the vehicle.

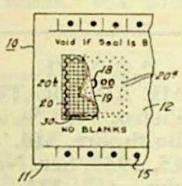
2,999,697
CUSHIONED PUSHER CUP ATTACHMENT FOR BULLDOZER MOLD BOARDS
William A. Winget, Perry Chapel Road, Rte. 2, Lima, Ohio
Filed June 10, 1957, Ser. No. 664,732
3 Claims. (Cl. 280—481)

1. A pusher attachment for tractors comprising a vertically disposed backing member having a pair of laterally spaced up and down flat plate portions, means for rigidly securing said backing member to one end of a tractor so that forces imparted to the pusher member are transmitted to the tractor, a forwardly disposed member positioned in advance of said backing member and having a pair of laterally spaced up and down flat plate portions overlapping respectively portions of the adjacent flat plate portions of said backing member, a pivotal connection between said forwardly disposed member and said backing member so that the forwardly disposed member is con-



nected to the backing member for shifting movements toward and away therefrom, the arrangement being such that the flatwise engagement of said plate portions resists transverse or sidewise movements of the forwardly disposed member relative to the backing member and confines the relative movements therebetween to movements toward and away from each other, and cushioning means between the backing and forwardly disposed members for cushioning the rearward movement of the forwardly disposed member.

2,999,698
SALES PROMOTIONAL CARDS
Robert H. Hoese, 6162 Ellsworth St., Dallas, Tex.
Filed Apr. 23, 1959, Ser. No. 808,388
2 Claims. (Cl. 283—6)

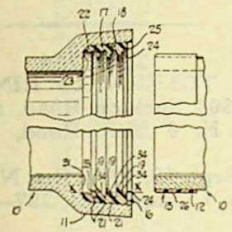


1. A sales promotional card including: a sheet of relatively thin paper board having front and rear faces; indicia on a portion of the front face of said sheet; a seal member of separate thicker material overlying the indicia on the front face of said sheet to conceal the same; means detachably securing the seal member to said sheet, said means comprising threads stitched in a zig-zag manner through the sheet and the perimeter of the seal member whereby the zig-zag stitching of the threads prevents resewing of the seal member to the sheet without leaving evidence of tampering; and means on the rear face of the sheet underlying the indicia on the front face thereof and coacting with said seal member to prevent detection of said indicia through said sheet.

2,999,699
PIPE JOINT
Wylie M. Lafferty, New Philadelphia, Ohio, assignor to Universal Sewer Pipe Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 6, 1958, Ser. No. 765,501
1 Claim. (Cl. 285—110)

A joint for connecting the spigot end of a vitrified clay bell and spigot pipe section to the bell end of another similar pipe sections, said bell end having an internal diameter greater than the external diameter of said spigot end, said joint comprising: a resilient, unitary, substantially incompressible, seamless sealing ring capable of cold flow

disposed within said bell end and bonded thereto, and a unitary, substantially incompressible, seamless collar disposed on said spigot end and bonded thereto, said sealing ring comprising a plurality of parallel, resilient, annular sealing flanges each projecting radially inwardly and having an axial outer face sloping at an angle away from the open end of said bell, and having an axial inner face substantially perpendicular to said axis, a plurality of parallel annular grooves equal in number to the number of said flanges and disposed therebetween and of a volume and cross-sectional shape the same as that of said flanges, said collar having a smooth, cylindrical sealing surface engaging said sealing flanges, the external diameter of said sealing surface on said collar being of a size to provide engagement thereof and forming a circumferential line of initial contact with said flanges along the respective

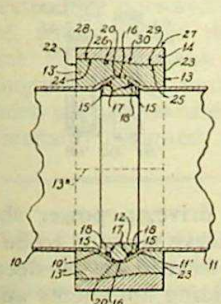


sloping outer faces and with further axially inward movement of said seamless collar to bend only the end portions of said flanges extending radially inwardly of said circumferential line of initial contact against said perpendicular inner faces along a circumferential line equal in diameter to said circumferential line of initial contact into the adjacent annular grooves, said flanges and grooves being proportioned with respect to the circumferential line of engagement of the external diameter of said sealing collar therewith so that said adjacent grooves are substantially filled by the bent over end portions of said flanges, and the remaining portions of said flanges adjacent said ring remain substantially unflexed, said sealing ring having inner and outer cylindrical supporting surfaces disposed at its respective ends, said supporting surfaces having an internal diameter no greater than the external diameter of said seamless collar.

2,999,700
COUPLING FOR FLARED END TUBES INCLUDING INNER AND OUTER SLEEVE ELEMENTS

Francis L. Smith, West Islip, N.Y., assignor to Republic Aviation Corporation, near Farmingdale, Suffolk County, N.Y., a corporation of Delaware

Filed Feb. 13, 1956, Ser. No. 564,849
2 Claims. (Cl. 285—332.3)

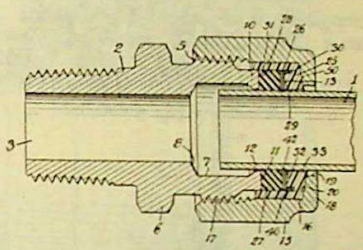


2. In a coupling to engage and secure the flared end of a tube the combination with a back-up ring having at least one side surface disposed at substantially the same angle as the angle of the flared end of the tube, of a clamp consisting of a pair of semi-circular sections, a hinge of spring material engaging a pair of adjacent ends of said sections, said sections being provided with continuous internal grooves, each having at least one wall disposed at the same angle as the angle of the side surface of the ring and the flare of the tube, and a sleeve movable over the clamp parallel to the axis of the tube, the external surface of the clamp and the internal surface of the sleeve being formed with corresponding marginal areas disposed in different planes and parallel one to the other and to the axis of the tube with the inner edges of said areas interconnected by sloping areas whereby the sloping areas of the sleeve and clamp serve as cam surfaces for the marginal areas when the sleeve is moved over the clamp to complete the closing of the clamp and the marginal areas of the clamp and sleeve serve as individual bearing surfaces to hold the clamp in the closed position aforesaid.

2,999,701
PIPE COUPLING HAVING SEALING AND ANCHORING MEANS

David R. Blair, Prospect Heights, and Dibrell P. Hynes, Chicago, Ill., assignors to Chicago Forging and Manufacturing Company, Chicago, Ill., a corporation of Delaware

Filed Apr. 8, 1959, Ser. No. 805,033
1 Claim. (Cl. 285—340)



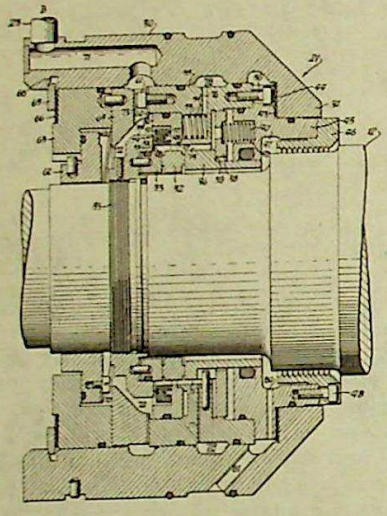
In a pressure joint, a tube, a pressure housing for receiving and surrounding said tube, said housing including a plurality of relatively movable chamber elements, one of said elements having a cylindrical portion and an end wall having an aperture through which the end of the tube extends, an anchorage on said tube including a deformable substantially conical gripping ring having its inner edge positioned for substantially continuous contact with the tube, a relatively non-distortable cushion member of nylon or the like having an annular end wall and a circumferential wall surrounding and confining the outer edge of said gripping ring, the outer diameter of said circumferential wall being generally equal to the inner diameter of said cylindrical portion of the one of said elements, a rigid reinforcing ring positioned between said gripping ring and cushion and seated against said cushion annular end wall, said reinforcing ring having a circumferential flange positioned against said cushion circumferential wall and confining the outer edge of said gripping ring, and means for providing a seal between said tube and said housing including a body of resilient rubber-like relatively distortable material surrounding said tube between said tube and the inner surface of said circumferential wall, said flexible body having an outer diameter generally equal to the inner diameter of said circumferential wall and an inner diameter generally equal to the outer diameter of said tube, said flexible body being positioned entirely within said circumferential wall, said cushion member having an end portion formed and adapted to be contacted by one of said chamber elements, the other of said chamber forming elements including an offset end portion adapted to penetrate said cushion and be positioned within said circumferential wall and in contact with said flexible body, said offset end portion having an outer diameter generally equal to the inner diameter of said circumferential wall of said cushion member and an annular end wall positioned for con-

tact with said flexible body, the inner diameter of said offset end portion annular wall being slightly greater than the outer diameter of said tube, said offset end portion being on the interior of said pressure joint, said flexible body being contained between said offset end portion, circumferential wall, gripping ring and the tube to be sealed, said chamber forming elements being adapted to subject the seal and cushion member to compression sufficient to substantially flatten said gripping ring and to force said gripping ring to bite into the tube, the gripping ring, reinforcing ring and the cushion member annular end wall preventing extrusion of said seal axially along said tube.

2,999,702
SHAFT SEAL WITH POSITIVE AUTOMATIC SHUT-DOWN FEATURE

Robert Dunn, Olean, and Frederick A. Goerss, Allegany, N.Y., assignors, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Oct. 14, 1959, Ser. No. 846,417
1 Claim. (Cl. 286—8)



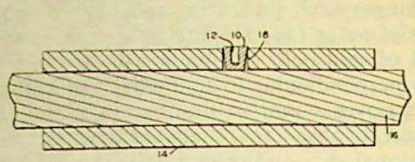
In a shaft seal, the combination comprising a first member surrounding the shaft and rotatable therewith, a floating seal ring surrounding the shaft and urged into seating engagement with said first member, a stationary member surrounding said floating seal ring, an annular piston slidably mounted on said stationary member for movement in a direction axially of the shaft, a contact seal ring carried by said piston, an annular contact surface on said first member and facing axially of said shaft, spring means operatively interposed between said piston and stationary member for urging said contact seal ring toward engagement with said contact surface, means for applying pressurized liquid to said piston to urge separation between said contact seal ring and said contact surface, and drainage means for removing fluid by-passed by said seal rings, said contact seal ring and contact surface being normally separated but engaging when the forces urging them together exceed those urging them apart such as when the pressure of said liquid falls below a predetermined value.

2,999,703
PLUGGED ASSEMBLIES

Robert R. Myers, McKeesport, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 19, 1958, Ser. No. 755,920
6 Claims. (Cl. 287—1)

5. The combination with a cable of a plastically deformable sleeve surrounding and supported on said cable, said sleeve having an aperture through a wall thereof, a plastically deformable plug in said aperture having a blind orifice extending axially into the same from an exposed terminal end face thereof remote from the cable, and

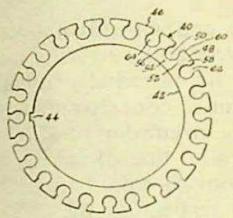


said plug and sleeve plastically deformed into compressive engagement with each other and with the cable with the plug completely filling the aperture and having a maximum cross-sectional area of the plug within the aperture adjacent the cable.

2,999,704
TOLERANCE RING

John Haller, 18500 Sheldon Road, and Lewis W. Alexander, 41131 E. 8 Mile Road, both of Northville, Mich.

Filed Sept. 13, 1955, Ser. No. 534,120
6 Claims. (Cl. 287—52)

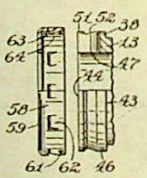


1. A tolerance ring comprising a generally annular body of porous sintered powdered metal having outer and inner generally concentric peripheries, one of said peripheries having radially-compressible teeth projecting outwardly therefrom in circumferentially-spaced relationship therearound and recesses disposed between said teeth, said teeth having circumferentially broad tips and said tips having widths substantially equal to the maximum widths of said teeth.

2,999,705
ENGINE STARTER DRIVES

Glenn S. Spencer, Horseheads, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Filed Dec. 21, 1959, Ser. No. 860,765
11 Claims. (Cl. 287—52.08)



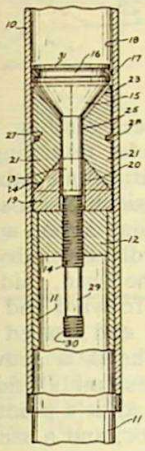
1. In a starter drive, a power shaft having a transverse passage, a sleeve adapted to be fixedly mounted on the shaft, a flange formed on the sleeve and having radial side portions providing abutments and having a top portion connecting said side portions, said flange having slot means formed therein opening to the top and one of the flange side portions and adapted to register with the said shaft passage, securing means mounted in the shaft passage and engaging said flange slot means, retainer means journalled on the shaft for securing the sleeve to the shaft, means formed in the flange top portion for fastening the retainer means to the flange, said retainer means

abutting said one side portion of the flange and having a portion yieldably engaging said fastening means and encompassing portions of said securing means.

2,999,706
TUBE LOCK

Merrill B. Wilcox, Minneapolis, Minn., assignor to Aladdin Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota

Filed May 6, 1959, Ser. No. 811,337
1 Claim. (Cl. 287—58)



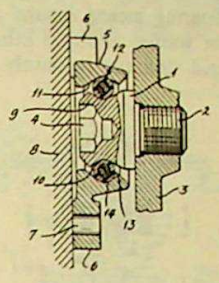
Mechanism for locking outer and inner telescoping tubes against longitudinal movement with respect to each other including a plug fixedly mounted in a first end of said inner tube to have position inside said outer tube; a stud concentric with said inner tube and threadably mounted in said plug; a first conical cam integral with said stud and converging toward said plug; a friction member mounted on said first conical cam to tend to hold said first conical cam and stud against angular displacement with respect to said outer tube; a second conical cam surrounding said stud between said first end of said inner tube and said first conical cam and converging toward said first conical cam; a plurality of wedges between said first and second conical cams, each wedge having a surface adjacent, concentric with and in matching relationship to a portion of an inner surface of said outer tube, a surface adjacent, concentric with and in matching relationship to a portion of said first conical cam, and a surface adjacent, concentric with and in matching relationship to a portion of said second conical cam; a retaining member constituted as an integral extension of said stud at an end thereof opposite said first conical cam; said retaining member consisting of a shank integral with and extending outwardly from a threaded portion of said stud, and a second threaded portion integral with said shank; and said shank being of dimension to pass freely through said plug and of length greater than that of a threaded portion of said plug in which said stud is normally threadably mounted.

2,999,707
FLEXIBLE JOINT

Ernest Kniepkamp, Heilbronn (Neckar), and Franz Gottfried Reuter, Lemforde, Hannover, Germany, assignors, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 27, 1957, Ser. No. 699,354
Claims priority, application Germany Nov. 28, 1956
1 Claim. (Cl. 287—85)

A flexible joint adapted to fasten a motor and the like to a supporting structure which comprises a protuberance adapted to be secured to a motor, said protuberance having diverging and converging tapered surfaces, a casing adapted to be secured to a supporting structure, said casing circumscribing said protuberance and having converging and diverging tapered surfaces in a direction opposite to that of said protuberance surfaces, to form an elliptical space between said protuberance and said cas-

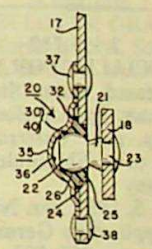


ing and between said tapered surfaces within said elliptical space, a compressed O-ring having a cellular polyurethane plastic core and a rubber-like substantially nonporous polyurethane plastic external surface, said O-ring having a substantially circular cross section.

2,999,708
BALL AND SOCKET JOINT

Michael A. Dudash, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 11, 1957, Ser. No. 689,575
3 Claims. (Cl. 287—87)



1. A ball and socket joint including, a stud having a ball end and a shank projecting therefrom, a retainer having a partially spherical recess, a bearing liner mounted within the retainer and formed to define a ball socket portion for the ball end of the stud, said liner comprising an integral element having a single slot extending axially therethrough and a plurality of spaced slots in the socket portion, said liner also having a polygonal flange, and a member attached to said retainer having a complementary aperture receiving said polygonal flange whereby the liner is retained in nonrotative relationship between the retainer and the member.

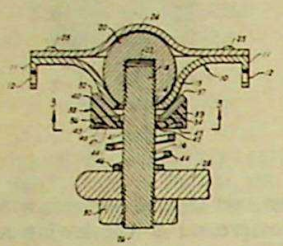
2,999,709
BALL JOINT ASSEMBLY

James O. Melton, Norman, and Thomas B. Wilkinson, Oklahoma City, Okla., assignors to Jamco, Inc., Oklahoma City, Okla., a corporation of Oklahoma

Filed Sept. 12, 1960, Ser. No. 55,300
1 Claim. (Cl. 287—90)

In a ball joint assembly for pivotally interconnecting two members, comprising a body having a spherically shaped socket portion and adapted for connection with one of said members, said socket portion having an axial opening therein, a ball member fitting in said spherically shaped socket portion, a stud secured to said ball member and extending through said axial opening, said stud being of a size to extend loosely through said axial opening and being adapted for connection with the other of said members in spaced relation from said body, the improvement which comprises a dished thrust washer around said stud

adjacent said body and having wall portions inclined to bear tangentially against said spherically shaped socket portion, said thrust washer further having a central aperture therein of smaller diameter than said axial opening to partially seal said axial opening, and having a flat annular lip surrounding said central aperture; high density, synthetic resin bearing means around said stud between said dished thrust washer and said other member; and a spring around said stud compressively retained between



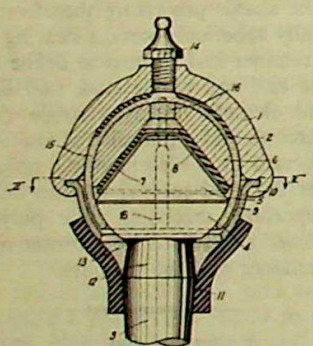
said bearing means and said other member to constantly urge said ball member into engagement with said socket portion, said bearing means having a dished surface complementary in configuration to said thrust washer and mating therewith to form a bearing, and said bearing means further having a convexly shaped surface opposite said dished surface and a peripheral flange extending parallel to said stud toward said other member, said flange forming a guide for said spring, and said flange and said opposite surface providing a seat for said spring.

2,999,710

BALL JOINT, ESPECIALLY FOR MOTOR VEHICLES

Josef H. Latzen, deceased, late of Strump-Osterrath, near Dusseldorf, Germany, by Anneliese Latzen, nee Dahmen, heir, Strump, near Osterrath near Dusseldorf, Germany, assignor to A. Ehrenreich & Cie, Dusseldorf-Oberkassel, Germany

Filed Sept. 5, 1957, Ser. No. 682,198
Claims priority, application Germany Sept. 8, 1956
4 Claims. (Cl. 287—90)



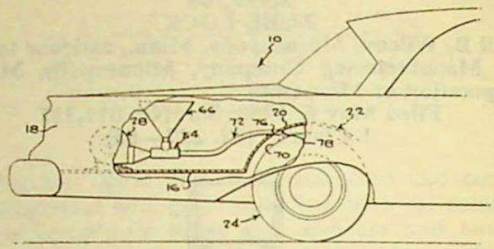
1. In a ball-shaped suspension joint for the suspension of the wheels of a motor vehicle: a stud, a head connected to said stud and having a spherical surface portion adjacent said stud and a cone-shaped surface portion integral with said spherical surface portion and remote from said stud, a cap arranged above said cone-shaped surface portion and having an outer spherical surface and an inner cone-shaped surface corresponding to the outer contour of said cone-shaped surface portion, said cap being rotatably supported by said cone-shaped surface portion and being rotatable about the extension of the longitudinal axis of said stud, said outer spherical surface portion supplementing said spherical surface portion of said head to form a spherical surface of a nearly complete ball, and a socket member embracing said cap and said head.

2,999,711

ANTI-SKID SANDING DEVICE

Leonard J. Sturmer, 1128 Pierce Ave., Niagara Falls, N.Y.

Filed Apr. 24, 1959, Ser. No. 808,716
1 Claim. (Cl. 291—3)



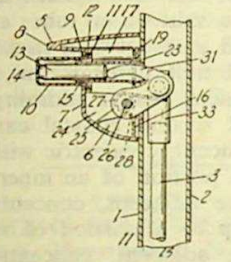
An automobile wheel sanding device comprising an electric blower, means for mounting the blower on a part of an automobile, an air jet assembly extending from and communicating with said blower, said assembly comprising a horizontal tubular head, a reduced diameter jet tube extending forwardly through said head and spaced from the interior of the head, said head having a closed rear end and an open forward end and said jet tube having an open forward end spaced rearwardly from the forward end of the head, a gravity feed and hopper mounted on said jet assembly and communicating with the interior of said head at a point behind the open forward end of the jet tube, and a sand projecting pipe having a rear end connected to the forward end of said head.

2,999,712

PUSH BUTTON HANDLE

Gerald V. Jakeway, Grand Rapids, Mich., assignor to Keeler Brass Company, Grand Rapids, Mich.

Filed May 16, 1960, Ser. No. 29,269
9 Claims. (Cl. 292—336.3)



9. A handle comprising a grip and a chambered head having a push button opening therein, a tubular bearing member supportedly mounted within said head in alignment with said opening therein, a push button reciprocatingly mounted in said opening in said head and provided with a stem slidably and supportedly mounted in said bearing member, a lever pivotally mounted within said head to project rearwardly therefrom and having a forwardly projecting arm disposed in said bearing member in thrust engagement with said stem of said push button, said lever having a coupling element on its swinging end, and an actuated member pivotally connected to the coupling element.

2,999,713

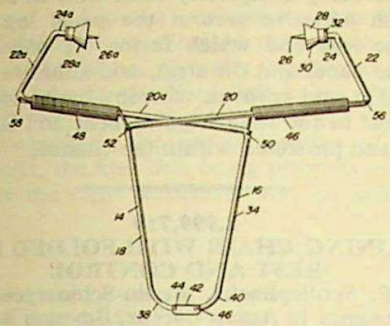
EAR CORN HOLDER

John F. Jones, 302½ S. Elm St., Greensboro, N.C.

Filed Jan. 27, 1960, Ser. No. 4,942
2 Claims. (Cl. 294—5)

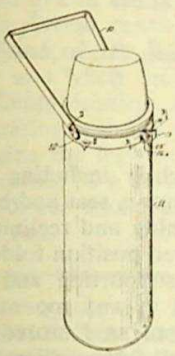
1. A holder for an ear of corn comprising a pair of divergent arms pivotally connected at one end, said arms including oppositely, substantially right angular bent and crossed intermediate portions and reversely bent free end portions terminating in opposed prongs paralleling said

intermediate portions and adapted to penetrate the end portions of an ear of corn for rotatably supporting same, and a coil spring mounted longitudinally on each intermediate portion and having one end anchored to the



outer end portion thereof and its other end anchored to the inner end portion of the other of said intermediate portions for yieldingly resisting swinging movement of said free end portions of said arms away from each other.

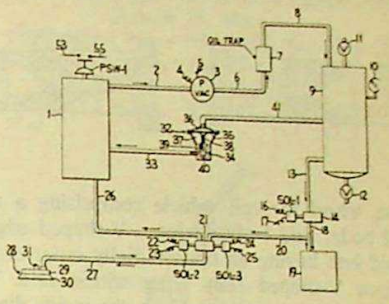
2,999,714
DUAL-POSITION HANDLE FOR CONTAINERS
Ernest D. Ritchie, 6349 E. Barnan, Tucson, Ariz.
Filed Sept. 17, 1956, Ser. No. 610,370
1 Claim. (Cl. 294—31.2)



A combined handle and pouring-cradle for a vacuum bottle comprising a substantially flat horizontal grip portion, a leg depending from each end of said grip portion, a depression and a perforation near one end of each leg, a circular band, protuberances and perforations at diametrically opposite points of said band, pivots connecting said legs to said band through said first and last mentioned perforations, said depressions and said protuberances being so designed and located as to engage one another when said legs are rotated about said pivots, and means for tightening said band around said vacuum bottle, characterized by the fact that said legs are of sufficient length to support said vacuum bottle in a tilted position when said legs are rotated about said pivots to a horizontal position, whereby the open end of said bottle is sufficiently elevated to prevent the contents from pouring therefrom after the first cupful has been removed from said bottle.

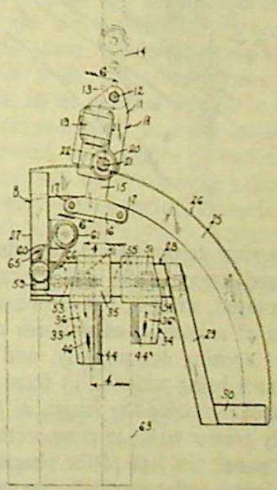
2,999,715
VACUUM RELEASE APPARATUS
Vance S. Firestone, Ford City, Pa., assignor to Pittsburgh Plate Glass Company, a corporation of Pennsylvania
Filed Sept. 18, 1959, Ser. No. 840,877
5 Claims. (Cl. 294—64)

1. An apparatus for providing a source of vacuum and a source of compressed air which comprises a pressure tank, a vacuum tank, a power-operated vacuum pump having an inlet and an outlet, conduit means communicating the vacuum tank to the inlet of the vacuum pump for evacuation of the vacuum tank, conduit means communicating the pressure tank to the outlet of the vacuum pump during communication of said vacuum tank with said inlet of the vacuum pump provided by said first-mentioned conduit means, valved conduit means communicating said vacuum tank with the atmosphere and



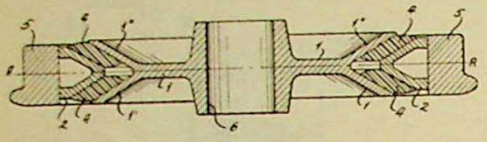
communicating said inlet of said vacuum pump with the atmosphere through said vacuum tank and including a normally open valve, means operatively closing said normally open valve in response to air pressure in the pressure tank, actuated switch means to connect the vacuum pump to a power source upon actuation of the switch means and means responsive to air pressure in the vacuum tank to actuate the switch means.

2,999,716
ROLLOVER GRABS
Robert S. Elberty, Meriden Ave., Southington, Conn., assignor to Jack Breslav, New Haven, Conn.
Filed Dec. 21, 1956, Ser. No. 629,913
7 Claims. (Cl. 294—86)



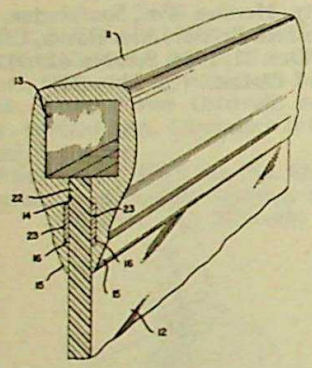
1. A grapple comprising an arm member, means for suspending said member, a pair of gripping jaws slidably mounted on said arm member for relative approaching and separating movements, means for actuating said jaws, each of said jaws comprising a leg member projecting from said arm in substantial parallelism and a jaw member slidably mounted on each of the leg members, the contacting surfaces of each leg member and its associated jaw member being inclined toward the gripping surface of the corresponding jaw member whereby relative movement between each jaw member and its associated leg member will effect relative approaching or separating movements of the jaw members and spring means urging each of said jaw members in one direction along said inclined surface upon its associated leg member, said direction being that tending to separate the jaw members.

2,999,717
RESILIENT RAILWAY WHEEL
Franz G. Reuter, Lemforde, Hannover, and Robert Igelbrinck, Voxtrup, Osnabruck, Germany, assignors, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 21, 1958, Ser. No. 716,674
Claims priority, application Germany Feb. 25, 1957
1 Claim. (Cl. 295—11)



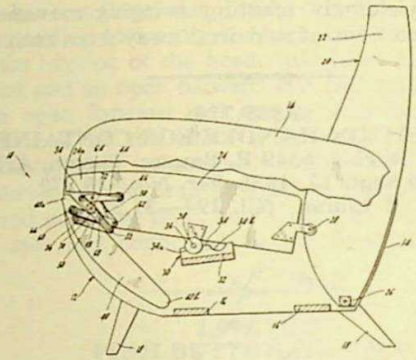
A disc wheel for rail vehicle comprising a one-piece hub and body, said body having a V-shaped edge spaced from said hub having an open radially outer end, a one-piece open V-shaped felly lying within said V-shaped edge with its apex nearest the hub, the inside diameter of the felly being substantially smaller than the outside diameter of the hub and body, a rubber-like polyurethane plastic insert between said edge and felly, and a separate rim mounted on the open base of said V-shaped felly.

2,999,718
SUN VISOR
Frank Handler, 1730 Wildemere, Detroit 21, Mich.
Filed Sept. 17, 1959, Ser. No. 840,586
2 Claims. (Cl. 296—97)



1. A sun visor compring an elongated, rigid, horizontally arranged support strip and a panel having a horizontally arranged, straight, flat top edge; said strip being in the form of a channel of uniform cross-section, with the channel opening downwardly, and the base portion of the channel being widened to form a uniform cross-section tunnel extending the length of the strip and of a considerably greater width in cross-section than the thickness of the panel; the legs of the channel below the tunnel each having a flat vertically arranged interior face with said faces being parallel and spaced apart a distance substantially equal to the thickness of the panel for snugly receiving the panel top edge portion between them, said panel top edge portion being arranged between and in flat face to face contact with both of said faces with the top horizontal edge of the panel extending to the tunnel and forming a continuation of the tunnel and closing off the gap in the tunnel formed by the intersection of the leg interior faces and the tunnel forming base portion; means for securing the panel to the strip, said means consisting of a horizontally extending groove formed in each of the flat interior faces of the legs and extending the full length of the strip, the grooves opening toward each other and being oppositely aligned, each of the grooves being substantially centered in the vertical direction relative to its respective leg, each groove being of a height which is approximately one-third of the height of its respective leg face and being shallow and in cross-section being substantially in the form of a narrow, vertically elongated rectangle having a vertical edge open; each groove being completely filled with an adhesive material which adhesive secures the panel top portion to both of the legs and which forms the only connection between the panel and the strip, said adhesive being positioned only in said grooves, whereby the means for securing the panel to the strip is permanent and is completely concealed and protected within the channel.

2,999,719
RECLINING CHAIR WITH FOLDED BACK-REST AND CONTROL
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed Mar. 28, 1958, Ser. No. 724,700
6 Claims. (Cl. 297—85)

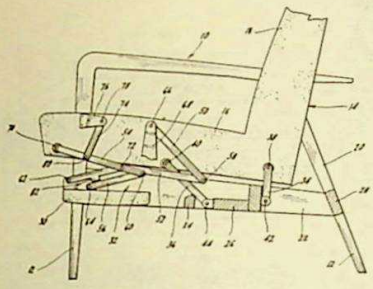


1. In a reclining chair including a support, a body-supporting unit including a seat and back-rest mounted on said support for inclining and reclining movement, a leg-rest disposed in a stored position folded back beneath said seat, and a leg-rest supporting and controlling linkage operatively connected to and mounting said leg-rest for pivotal movement from said stored position through a downward arc to an intermediate position and then through an upward arc to various elevated leg-supporting positions, said leg-rest supporting and controlling linkage being operatively connected between said body-supporting unit and said leg-rest for effecting said pivotal movement and including a compensating link, means pivotally connecting said compensating link to said body-supporting unit, a first link pair having two links pivotally connected with each other, a second link pair having two links pivotally connected with each other, respective means pivotally connecting one link of said first and second link pairs to said compensating link at spaced points thereof, respective means pivotally connecting the other link of said first and second link pairs to said leg-rest at spaced points thereof, means pivotally connecting said first and second link pairs to each other for coordinating said link pairs, and means pivotally connecting one link of said link pairs to said support.

2,999,720
LEG-REST CONTROL FOR RECLINING CHAIR
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Ocean Ridge, Boynton Beach, Fla.
Filed May 25, 1959, Ser. No. 815,523
8 Claims. (Cl. 297—89)

1. In a reclining chair having a support frame, a body-supporting unit including a seat and back-rest mounted on the support frame for tilting movement to a reclining position, and a leg-rest; leg-rest control means for moving the leg-rest from a retracted underslung inverted posi-

tion beneath the seat to an extended position in which it is spaced forwardly of the front of the seat, said leg-rest control means comprising a first pair of links formed by a first and second link pivotally connected end-to-end, a second link pair formed by a third and fourth link pivotally connected end-to-end and interconnected with the first pair of links for coordinated movement, the second and fourth links being pivotally connected to spaced points on the leg-rest, the third link being pivotally connected to the forward end portion of the seat and extending rearwardly in the sitting position of the body-supporting unit, the first link being pivotally mounted on a portion of the chair structure, and an actuating link



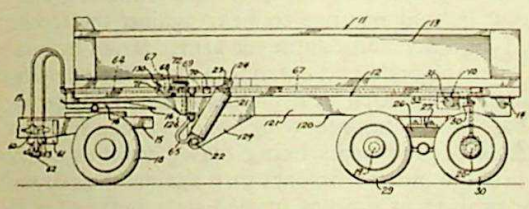
pivotally mounted on the support frame at a point rearwardly of and above the position of the pivotal mount of the first link on the seat in the sitting position of the body-supporting unit, said actuating link being pivotally connected to the third link at an intermediate point thereon proximate to the pivotal connection of the latter to the seat, the upper end of the third link being moved rearwardly with the seat when the body-supporting unit is brought to its reclining position, and the actuating link and third link cooperating with the seat to provide a drag link action for bringing the leg-rest to its extended position, with the seat serving as a driving crank, the actuating link serving as a driver crank, and the third link serving as a connecting rod.

2,999,721

HYDRAULIC STABILIZERS FOR TILTING TRUCK OR TRAILER DUMP UNITS

Louis S. Wood, 1605 Grant Blvd., Findlay, Ohio

Filed May 5, 1958, Ser. No. 733,035
9 Claims. (Cl. 298—17)



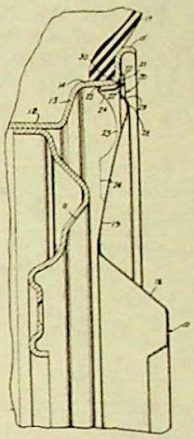
1. In a dump vehicle, a chassis including a frame, at least one wheeled rear axle, spring means supporting said frame at each side of said rear axle and connected thereto, a dump body, transversely disposed pivot means mounting the said dump body on the said chassis, and means for raising and lowering said dump body about its pivot means for accomplishing a dumping cycle, the said frame and axle being tiltable laterally with respect to each other when said vehicle is on uneven terrain, a stabilizer for eliminating any increase in lateral tilting of said axle and frame with respect to each other during each dumping cycle of said dump body comprising means pivoted on said frame including laterally spaced arms linked at one end to said rear axle, one of said arms being fixed to said pivot means and the other of said arms being journaled thereto, and means locking the other said arm to said pivot means fixing said rear axle and frame in the lateral angular relationship assumed by them with respect to each other said locking means operable responsive to the initial raising and releasable upon lowering of the dump body during each said dumping cycle.

2,999,722

WHEEL COVER

George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.

Original application Nov. 23, 1955, Ser. No. 548,709. Divided and this application Dec. 27, 1956, Ser. No. 630,989
3 Claims. (Cl. 301—37)



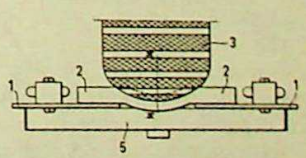
1. In a wheel structure including a tire rim having a radially inwardly facing flange portion and an axially outwardly facing flange portion joined thereto, a cover member for disposition at the outerside of the wheel including a sheet metal body having a margin for overlying said flange portions and provided with an underturned flange structure engageable with the axially outwardly facing flange portion of the rim and having generally axially inwardly extending cover retaining extension structure thereon engageable with the radially inwardly facing flange portion, said cover member margin having an annular reinforcing rib projecting generally axially inwardly and backed up against the juncture of said underturned flange structure and said cover retaining extension structure, the radially inner side of said rib comprising a flange extending obliquely generally radially outwardly and axially inwardly toward, and in reinforcing strut relation to, the portion of said rib which is backed up against said juncture.

2,999,723

CHAIN FOR TRACTORS

Jonas Martin Ostberg and Carl Viktor Larsson, Alfta, Sweden

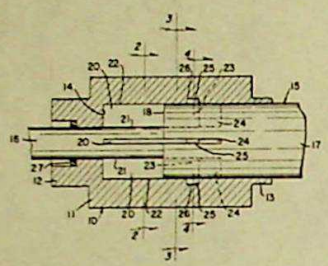
Filed May 31, 1956, Ser. No. 588,373
Claims priority, application Sweden June 15, 1955
1 Claim. (Cl. 305—57)



In a tractor drive, the combination of a track comprising interconnected links, and a rubber tire having a tread adapted to accommodate said links, each link being constituted by two coplanar plates spaced transversely of said tire by a distance substantially corresponding to the width of the tread of said tire, parallel spaced bars of rectangular cross-section aligned transversely of said tread

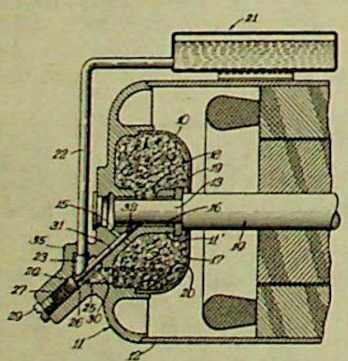
and interconnecting said plates, said plates having flat surfaces facing said tread, said bars being secured to said flat surfaces, the tread being provided with grooves and extending transversely throughout the tread for accommodating said bars and having a width substantially equal to the thickness of said bars and having a peripheral spacing substantially equal to the spacing of the two parallel bars, and pivotable loops on the rigidly interconnected plates for connection to another of said links.

2,999,724
DIFFERENTIAL DIAMETER RECIPROCATED SHAFT AND SUPPORTING MEANS THEREFOR
John F. Sherwood, P.O. Box 225, Rte. 2, Golden, Colo.
Filed Aug. 22, 1960, Ser. No. 51,201
6 Claims. (Cl. 308—4)



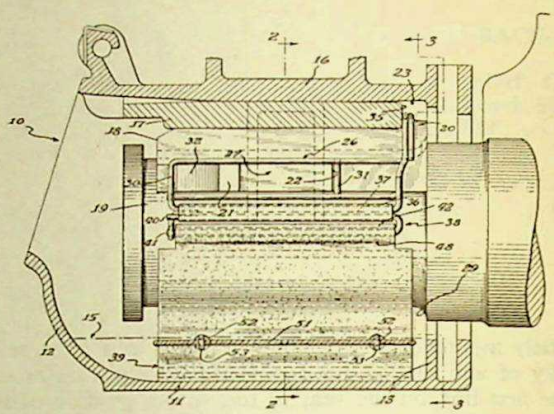
1. A differential diameter reciprocated shaft and supporting means therefor comprising a cylindrical housing, a shaft reciprocably mounted in the housing having a piston portion smaller in diameter than the internal diameter of the housing and a work shaft portion larger in diameter than the piston portion, and a plurality of stationary supporting guides spaced circumferentially of the piston portion of the shaft and extending radially between said portion and the housing in reinforcing relationship to the piston shaft.

2,999,725
LUBRICATOR SYSTEM
Edward J. Schaefer, 400 E. Spring St., Bluffton, Ind.
Filed Oct. 1, 1957, Ser. No. 687,588
30 Claims. (Cl. 308—78)



1. A bearing lubricator comprising a primary liquid lubricant reservoir adapted to be located adjacent a bearing, means for depositing lubricant from said primary reservoir upon the contacting surfaces of the bearing and a journal operable therein, an airtight reserve lubricant reservoir, airtight conduit means interconnecting said reservoirs for carrying lubricant by gravity from said reserve reservoir to said primary reservoir, said conduit means having its outlet located in said primary reservoir at a point such that the lubricant will flow from said reserve reservoir to said primary reservoir only when the lubricant level in said primary reservoir is below said outlet, sealing means for said conduit means for preventing lubricant flow therethrough, and means responsive to operation of the journal for automatically opening said sealing means upon operation of the journal for a predetermined period.

2,999,726
JOURNAL LUBRICATOR
Bertil E. Peterson, Chicago, Ill., assignor to Cardwell Westinghouse Company, a corporation of Delaware
Filed May 22, 1957, Ser. No. 660,799
11 Claims. (Cl. 308—87)

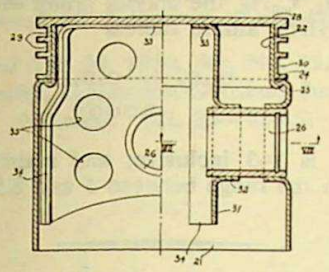


1. In combination with a journal box that has a lubricant reservoir at the bottom and a ceiling at the top, a journal rotatable above the reservoir, a bearing having a lower bearing surface riding on top of the journal and an upper wedging surface bounded at its inner end by an upraised shoulder portion of said bearing, said shoulder terminating short of said ceiling, said bearing having a transversely-extending lug at each of its opposite sides and being formed with an inwardly facing shoulder on each of its opposite sides with the outwardly facing portions of said lugs inclined towards each other in the direction of the outer end of the bearing, and a wedge engaged between the upper surface of said bearing and said ceiling with its inner end abutting said shoulder to provide a transverse passage that extends across the top surface of said shoulder at the upper inner region of said box; of an open-topped framework for securing a lubricator in said box and comprising a transverse end strap disposed in said passage to bear against the top surface of said shoulder and cantilever arms carried by said strap at its opposite ends and extending along the opposite sides of said bearing, each arm having outer and inner vertical crossbars with a lug-receiving loop between said bars, the free ends of said arms being biased towards each other such that the outer crossbars grip against the side surfaces of the bearing at a point immediately outward of the inclined surfaces of said lugs with the loops supported on the lugs and the inner crossbars engaging said inwardly facing shoulder to maintain said framework in permanently fixed position on said bearing, and attachment means carried by each arm for engaging the opposite ends of a lubricator.

2,999,727
PISTON
André Cornet, 31ter Rue Louise Michel, Levallois-Perret, France
Filed June 2, 1958, Ser. No. 739,153
Claims priority, application France June 4, 1957
9 Claims. (Cl. 309—10)

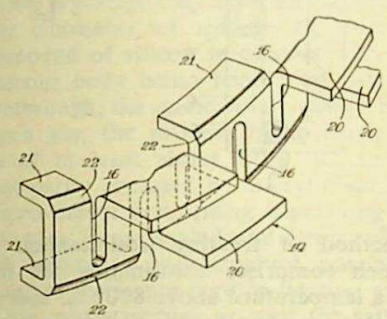
1. A piston formed of sheet metal, and comprising a skirt portion, a head portion having a head part and a grooved annular part, two sleeves forming bearings for

a wrist pin, two armature plates orientated in a plane perpendicular to the axis of the wrist pin bearings, means for welding said plates to said head part on the one hand



and to a major portion of said skirt portion on the other hand and cylindrical openings formed in the skirt on the one hand, and in said armature plates on the other hand, to support the sleeves through a welded connection.

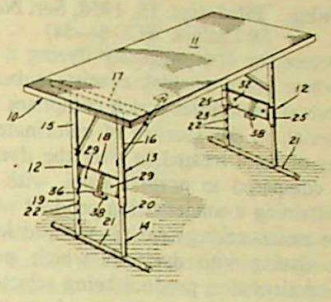
2,999,728
PISTON RING ASSEMBLY
Melvin E. Estey, Hagerstown, Ind., assignor to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana
Filed Mar. 27, 1957, Ser. No. 648,937
15 Claims. (Cl. 309—45)



1. A piston ring assembly comprising a cylinder-engaging rail, and positioning and expanding means comprising a circumferentially expansible structure having portions extending axially and portions bent to extend radially outward from the first-mentioned portions for holding said rail at one side of said groove, and portions bent to form shoulders abutting the inner periphery of the rail to force it outwardly, said last-mentioned portions extending radially inward from said shoulders.

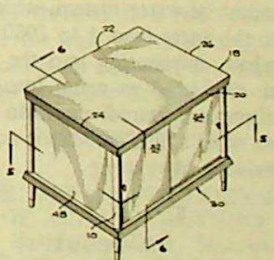
2,999,729
ADJUSTABLE SUPPORT FOR A PLATFORM
Albert N. Semmelroth, San Pedro, Calif., assignor to Virco Mfg. Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 9, 1959, Ser. No. 798,149
5 Claims. (Cl. 311—39)

1. An adjustable support for a platform, comprising spaced apart upper tubular members secured to said platform for unitary raising and lowering movements therewith and depending therefrom; lower interconnected members respectively telescopically slidable in said upper members as a unit, said lower members each having a linear series of spaced apart openings; a frame structure interconnecting the lowermost end portions of said upper members and movable therewith; rotatably mounted members carried by said frame structure respectively having projections successively positionable in the openings of said lower members, and being rotatable in response to telescoping movements thereof; at least one projection of each said rotatably mounted members being in engagement with the openings of one of said lower members at



all times; a latch common to said rotatable members comprising projecting elements engageable with the projections of said rotatable members, said latch being supported for movement into latched position simultaneously with respect to both of said rotatable members and into released position simultaneously with respect to both of said rotatable members.

2,999,730
KNOCKDOWN CABINET STRUCTURE
Clarence Adam Troutman, P.O. Box 1289, High Point, N.C.
Filed Aug. 8, 1958, Ser. No. 753,931
4 Claims. (Cl. 312—257)



1. In a knockdown cabinet structure, a plurality of legs each having a pintle projecting from the upper end and having a shoulder inwardly of and spaced from the lower end, a flat top having spaced side edges and an end edge extending between adjacent ends of the side edges, there being a socket in said top at each of the juncture points of the end edges with the adjacent ends of said side edges and opening inwardly from the under face of said top, said legs being disposed so that the pintles extend into and are embracingly held within said sockets, a flat bottom having spaced side edges, and an end edge extending between adjacent ends of the side edges, and being provided with an opening at each of the juncture points of the end edges with the adjacent ends of said side edges, said bottom being disposed so that the lower end portions of said legs extend through the openings with the upper face of the bottom bearing against the shoulders, and a releasable wedge pin carried by each of said legs and bearing against the under face of said bottom for holding the bottom in position on said legs.

2,999,731
DYEING OF NORMAL WOOL

Arthur Jacob Immins Harding, Syston, Leicester, England, assignor to Woodlyn Corporation, Spartanburg, S.C.

No Drawing. Filed Sept. 15, 1958, Ser. No. 760,874
20 Claims. (Cl. 8—54)

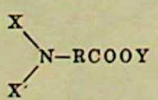
1. A process for non-uniformly dyeing a wool textile material whose wool content consists substantially entirely of normal wool fibres which comprises treating said textile material, in the absence of chlorinated wool and other forms of wool treated to alter the dyestuff affinity thereof as compared to normal wool, with an aqueous solution containing a condensation product which renders some of the amino acids present in wool at least partially resistant to dyeing with dyestuffs which normally dye wool, said condensation product being selected from the group consisting of condensation products of aldehydes and aromatic sulphonic acids and water-soluble salts of condensation products of aldehydes and aromatic sulphonic acids, a water-soluble organic aliphatic acid which is non-injurious to wool and at least one dyestuff which will dye wool and which contains at least two sulphonic acid groups in the molecule, the said aqueous solution having an initial pH of between 2.8 and 4.9.

2,999,732
INHIBITING CORROSION IN WATER SYSTEMS WITH PHOSPHATE-CHROMATE-EDTA COMPOSITIONS

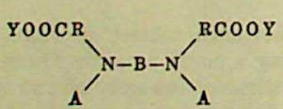
Harry Lewis Kahler, Feasterville, and Charles B. George, Philadelphia, Pa., assignors, by mesne assignments, to Betz Laboratories, Inc., a corporation of Pennsylvania

No Drawing. Filed Jan. 9, 1957, Ser. No. 633,188
6 Claims. (Cl. 21—2.7)

1. The process of inhibiting corrosion of the metallic parts in an industrial water system, which comprises introducing into the water from 1 to 1000 p.p.m. of water soluble phosphate, introducing into the water from 0.1 to 100 p.p.m. calculated as metal ion of a compound of trivalent chromium, introducing into the water from 1 to 100 p.p.m. of an amino carboxylic acid selected from the group consisting of



and



where X is a member of a class consisting of hydrogen, the alkylol groups $—CH_2OH$, $—C_2H_4OH$,

$$—C_2H_3(OH)_2$$

and an —RCOOY group;

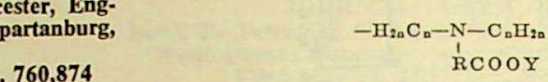
where X′ is a member of a class consisting of the alkylol groups $—CH_2OH$, $—C_2H_4OH$, $—C_2H_3(OH)_2$ and an —RCOOY group;

where Y is a member of a class consisting of hydrogen, the alkali metals, the alkaline earth metals, nickel, cobalt and iron;

where R is a member of a class consisting of CH_2, C_2H_4 and C_3H_6;

where A is a member of a class consisting of hydrogen, $—CH_2COOY$, CH_3, C_2H_5, $—CH_2OH$ and $—C_2H_4OH$;

where B is a member of a class consisting of the alkylene groups C_2H_4, C_3H_6, the alkylol group $=C_2H_3OH$, and the polyalkylene amine radical

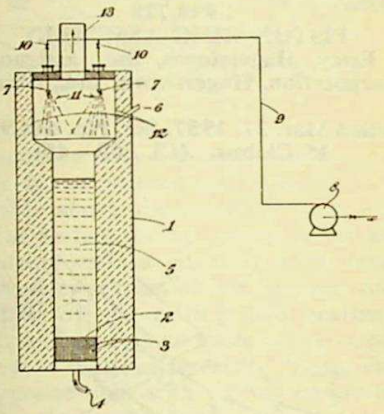


and where n is 1–3 inclusive; and maintaining in the water a pH in the range between 5 and 8.5.

2,999,733
CHLORINATION PROCESSES

James Dennis Groves, Fairfield, Stockton-on-Tees, England, assignor to British Titan Products Company Limited, Billingham, England, a company of Great Britain

Filed Jan. 16, 1958, Ser. No. 709,229
Claims priority, application Great Britain Jan. 16, 1957
12 Claims. (Cl. 23—87)



1. A method of treating iron-titanium bearing materials which comprises chlorinating the material in a reactor at a temperature above 800° C. and in a chlorination bed having a vapor space above the top of the bed, removing a vapor mixture comprising ferrous chloride and titanium tetrachloride from the top of the bed, and maintaining the temperature of a portion of the vapor space above said bed below 400° C. but above 200° C. whereby to chill the vapors as they are removed from the bed, said portion being spaced from the upper level of the bed thereby forming a solid suspension of ferrous chloride in the vapor and removing the suspension from the reactor.

2,999,734
PROCESS FOR THE PRODUCTION OF ALUMINOSILICATE GELS

Horst Weber and Ernst Podschus, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

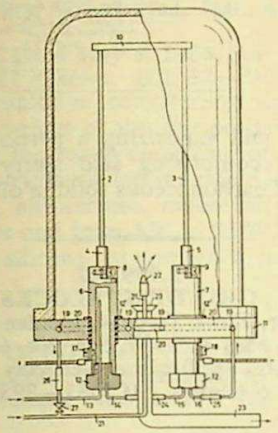
No Drawing. Filed Jan. 9, 1959, Ser. No. 785,805
Claims priority, application Germany Jan. 16, 1958
12 Claims. (Cl. 23—113)

1. Process for the manufacture of aluminosilicate gels characterized by continuously combining simultaneously solutions of alkali metal silicate, alkali metal aluminate, and aluminum salt of an acid with intense stirring, at a stay in the mixer of less than 10 seconds, to form a homogeneous hydrogel mixture separating the hydrogel from the liquid and drying it at temperatures of up to 300° C.

2,999,735
METHOD AND APPARATUS FOR PRODUCING HYPER-PURE SEMICONDUCTOR MATERIAL, PARTICULARLY SILICON

Konrad Reuschel, Pretzfeld, Upper Franconia, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Apr. 20, 1960, Ser. No. 23,524
Claims priority, application Germany June 11, 1959
9 Claims. (Cl. 23—223.5)



1. In a method of producing semiconductor silicon, in which silicon is precipitated upon an electrically heated carrier body consisting of silicon, by decomposing a gaseous compound of silicon in contact with the carrier body, the carrier body being heated by passing electric current therethrough, the gaseous compound being mixed with hydrogen gas, the process being carried out at a temperature of at least about 1100° C. in a reaction space at least partly enclosed by a heat-conductive structure, the improvement comprising supporting the carrier body in said space in gas sealed and electrically insulated relation with respect to said structure, passing hydrogen under superatmospheric pressure in heating exchange relation with the said structure to cool the latter so as to protect the electrical insulating seal, said cooling being to not lower than about 300° C. so as to disfavor precipitation of an oily, viscous coating of silicon compound upon said structure.

2,999,736
HIGH PURITY SILICON

Harold Shalit, Drexel Hill, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

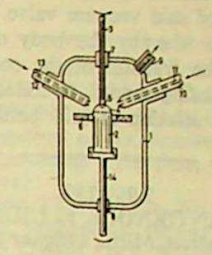
No Drawing. Filed Jan. 7, 1959, Ser. No. 785,329
2 Claims. (Cl. 23—223.5)

2. The method of preparing high purity silicon which includes the steps of: preparing silicon tetrafluoride; purifying the silicon tetrafluoride by passing a stream of gaseous silicon tetrafluoride countercurrently with a stream of anhydrous liquid hydrogen fluoride containing a hydrocarbon selected from the group consisting of meta xylene and mesitylene and further purifying the silicon tetrafluoride by cooling at a temperature between —20° C. and about —50° C. and recovering the gaseous silicon tetrafluoride from such cooling, whereby any trace amount of boron trifluoride contaminant is removed from the gaseous silicon tetrafluoride; and converting the thus purified silicon tetrafluoride to high purity silicon.

2,999,737
PRODUCTION OF HIGHLY PURE SINGLE CRYSTAL SEMICONDUCTOR RODS

Karl Siebertz, Munich, Germany, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed Apr. 16, 1959, Ser. No. 806,882
Claims priority, application Germany Apr. 30, 1958
9 Claims. (Cl. 23—223.5)

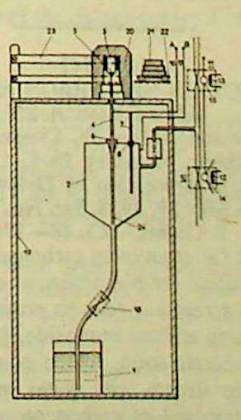


1. The method of continuously growing in a continuous operation a highly pure relatively thin single crystal rod-like semiconductor body from a melt of said semiconductor material, comprising producing within a reaction vessel between one end of a main electrode consisting of said semiconductor material and at least one counter electrode a glow-arc discharge to form said melt at said one end of said main electrode in the form of a substantially drop-shaped molten zone, said electrodes being disposed to produce substantially uniform heating of such molten zone by said glow-arc discharge, dipping into said melt the end of a relatively thin seed member consisting of said semiconductor material and having a cross-sectional area which is small as compared with the surface area of said drop-shaped melt, directing onto said drop-shaped melt a highly pure gaseous compound of said semiconductor material to continuously supply the melt therewith, said gaseous compound decomposing thermally by the action of said glow-arc discharge to effect continuous deposit of said semiconductor material upon said drop-shaped melt, and continuously withdrawing said body from said drop-shaped melt to cause molten material to solidify thereon at a rate which corresponds substantially to the rate at which said semiconductor material is deposited on said melt by the thermal decomposition of said gaseous compound.

2,999,738
AUTOMATIC DEVICE FOR TAKING SAMPLES OF ACTIVE SOLUTIONS

André Redon, Savigny-sur-Orge, Seine-et-Oise, France, assignor to Commissariat a l'Energie Atomique, Paris, France

Filed Aug. 26, 1959, Ser. No. 836,090
Claims priority, application France Aug. 26, 1958
6 Claims. (Cl. 23—259)



1. In an automatic device for taking samples of active solutions, a sample bottle, a conduit feeding said bot-

tle, means for placing said solution under vacuum, single action control means for said vacuum means, an electro-pneumatic motor system, a liquid switch actuated by contact between the active solution and said feeding conduit in said system, said vacuum means causing said solution to contact and enter said feeding conduit, a vacuum valve and an atmospheric valve in said system, means for closing said vacuum valve actuated by contact between the solution and said conduit, means actuated by closure of said vacuum valve for opening said atmospheric valve whereby the body of the solution is separated from the fraction of the solution which has penetrated said feeding conduit to collect a desired quantity of the active solution in said bottle.

2,999,739
ANTIKNOCK FLUIDS

Sam D. Heron, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 28, 1956, Ser. No. 574,397
6 Claims. (Cl. 44—69)

1. In an antiknock composition consisting essentially of organolead material as the principal antiknock ingredient, organic halogen scavenger material selected from the class consisting of that having two atoms of chlorine plus one atom of bromine per atom of said anti-knock lead, and that having two atoms of bromine per atom of said anti-knock lead, and a gasoline soluble phosphorus-containing, spark plug anti-fouling compound, the phosphorus-to-lead atom ratio of said composition being from about 0.02:3 to about 0.7:3; the improvement in which the bromine content of the organic halogen scavenger material is increased by about 15 to 20 percent.

6. A gasoline containing the composition of claim 1 in amount sufficient to provide effectively improved antiknock, but not more than equivalent to six milliliters of tetraethyllead per gallon.

2,999,740
SURFACE IGNITION SUPPRESSION

Thomas F. Banigan, Jr., Walnut Creek, Calif., assignor to Tidewater Oil Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Original application Nov. 27, 1956, Ser. No. 624,507. Divided and this application May 13, 1959, Ser. No. 819,523
9 Claims. (Cl. 44—69)

1. A gasoline fuel for internal combustion engines containing tetraethyllead in anti-knock amounts, halide scavengers in normal amounts in excess of 1.0 theory, and between 0.15 and 0.6 theory of a compound having the formula

$$[R(OC_3H_6)_nO]_3PO$$

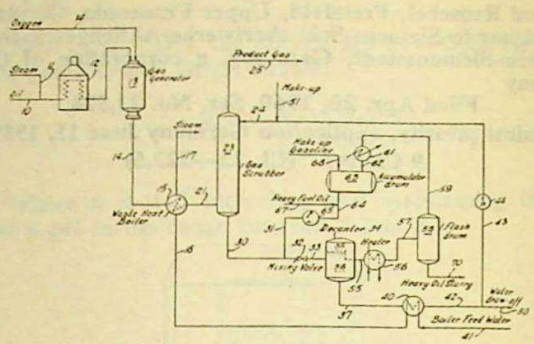
wherein *n* is an integer of 3 to 6, inclusive, and R is a lower alkyl radical.

2,999,741
PRODUCTION OF CARBON MONOXIDE AND HYDROGEN

Roger M. Dille and Roland W. Chapman, Whittier, and John C. Ahlborn, Monterey Park, Calif., assignors to Texaco Inc., a corporation of Delaware

Filed May 29, 1958, Ser. No. 738,839
8 Claims. (Cl. 48—196)

1. A method for recovering carbonaceous solid from a gas stream resulting from reaction of carbonaceous fuel with oxygen in a reaction zone to produce a product gas stream comprising carbon monoxide, hydrogen, and entrained carbonaceous solid, which comprises contacting said product gas stream with water in a gas scrubbing zone effecting removal of carbonaceous solid from said gas stream and forming a dispersion of solid in water, contacting said dispersion with a liquid hydrocarbon mixture having a gravity above 20° API and containing lower gravity components effecting resolution of said dispersion into clarified water and a slurry of solid in said hydrocarbon mixture, separating said slurry and said

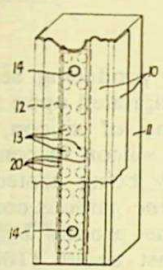


clarified water, and vaporizing a portion of said hydrocarbon mixture comprising said slurry and forming a residue slurry of carbonaceous solid in oil having a gravity below 20° API.

2,999,742
GRINDING BLOCKS

Roman Schuster, Funk Weg 14, Senden (Iller), Germany

Filed May 9, 1957, Ser. No. 670,354
Claims priority, application Germany May 11, 1956
6 Claims. (Cl. 51—293)



1. The method of producing a grinding tool; comprising the steps of applying a pattern sheet to a strip having corners and edges so that said sheet conforming to the contour of said strip and overlies same, casting a block on said strip supported contoured pattern sheet to conform the corresponding face of the block to said contour, providing markings on said pattern sheet at the locations of said corners and edges of the contour of said block thus formed, removing said pattern sheet, imparting to an emery sheet perforations corresponding to said markings on said pattern sheet so that said perforations run parallel to and spaced from each other through said emery sheet, and then connecting said emery sheet to said block face whereby said perforations coincide with said corners and edges, thereby to conform said perforated emery sheet to said block face so that said perforated emery sheet may be bent sharply without causing breakage thereof at said corners and edges.

2,999,743
DEFORMABLE SELF-SUPPORTING EXPLOSIVE COMPOSITION

Cyril James Breza, Thorofare, and Clyde Oliver Davis, Wenonah, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 17, 1960, Ser. No. 46,044
5 Claims. (Cl. 52—5)

1. An explosive composition consisting essentially of a cap-senstive crystalline high explosive compound selected from the class consisting of the organic nitrates and nitramines admixed with a binding agent consisting of 25–75% by weight of an organic rubber and 75–25%

by weight of a thermoplastic terpene hydrocarbon resin, said high explosive compound constituting 92.5–70% by weight of said explosive composition, said composition having the ability to deform in shape when subjected to mechanical pressure or manipulation and to hold itself in any shape into which it is thus formed when the pressure is released whereby the composition may be molded or shaped at room temperature into a self-supporting physical form of any desired size and configuration.

2,999,744
PLASTIC EXPLOSIVE COMPOSITIONS

Warren H. Eckels, Kingston, N.Y., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 6, 1955, Ser. No. 506,663
11 Claims. (Cl. 52—5)

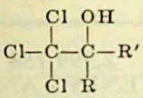
1. A plastic explosive composition comprising from 75% to 95% by weight of the composition of crystalline high explosive of the group consisting of cyclonite, trinitrotoluene, pentaerythritol tetranitrate, tetryl, nitroguanidine, picric acid, nitrolactose, mannitol octanitrate, and sucrose octanitrate and from 5% to 25% by weight of the composition of a silicone gel comprising a polysilicone.

2,999,745
PROCESS OF DEFOLIATING COTTON PLANTS

Albert Bloom, Summit, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1958, Ser. No. 769,098
5 Claims. (Cl. 71—2.7)

1. The process of defoliating cotton plants which consists of applying to the leaves at a rate sufficient to cause defoliation of said plants a liquid composition comprising a water-miscible organic solvent containing as active defoliant 0.5 to 2.5% by weight of a trichloro alkanol having the following general formula:



wherein R represents a member selected from the class consisting of hydrogen and methyl, and R′ represents a member selected from the class consisting of hydrogen, methyl and ethyl.

2,999,746
SUPPRESSING POTATO SPROUTING BY THE VAPORS OF DIPROPARGYL ETHER

Frederick A. Hessel, Montclair, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,607
3 Claims. (Cl. 71—2.7)

1. The method of retarding the sprouting of potatoes during storage which comprises exposing 1,000 parts by weight of said potatoes to 1 part by weight of the vapors of dipropargyl ether.

2,999,747
METHOD OF TREATING REFRACTORY ORES FOR THE RECOVERY OF VALUES THEREFROM

Anthony R. Ronzio, Littleton, Colo., assignor to Radiological Research Institute, Inc., Denver, Colo., a corporation of Nevada

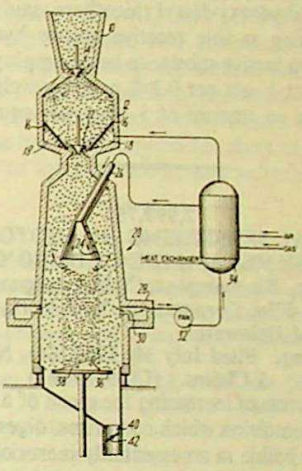
No Drawing. Filed Oct. 28, 1958, Ser. No. 770,014
6 Claims. (Cl. 75—1)

1. A method of recovering metal values from refractory ores which comprises the steps of reacting together a carbonaceous reducing agent and a strong oxidizing agent selected from the group consisting of alkali metal nitrates, alkali metal persulphates and alkali metal peroxides in the presence of the refractory ore, the oxidizing agent and amount thereof being selected to react with the carbonaceous reducing agent to form an alkali metal carbonate and heat, the heat of reaction being operative to fuse the alkali metal carbonate, reacting the fused alkali metal carbonate with the ore at an elevated temperature, the elevated temperature being due to the heat of reaction, to produce an insoluble metallic carbonate and soluble alkali compound, and thereafter leaching to separate the soluble alkali compound and insoluble metallic carbonate.

2,999,748
PROCESS OF REDUCING MOLDED BODIES COMPRISING METALLIC OXIDES

Toralv Båsen, Vagsbygd pr. Kristiansand S., Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway

Filed Nov. 24, 1959, Ser. No. 855,048
Claims priority, application Norway Nov. 27, 1958
5 Claims. (Cl. 75—36)



1. In the process of treating iron oxides for use in an electric smelting furnace the steps of forming molded aggregates of the oxide and a corbonaceous reducing agent, passing such aggreates downwardly in the shaft, heating such aggregates in a central portion of the shaft to a temperature between 800° C. and 1300° C. at which the reducing agent is caused to react with the oxide to generate CO and supplying air to the central portion of the shaft whereby such generated CO from the charge is burned in the central portion of the shaft continuouslly to heat the charge as it moves down whereby some sintering may take place in the portion of the charge toward the center while the aggregates in the outer area of the shaft that contact the lining remain separate and free flowing so that lodging of the charge is prevented, and causing the products of combustion to move downwardly in the shaft from the combustion zone so volatiles are not driven out of the charge before it reaches the combustion zone.

2,999,749
METHOD FOR PRODUCING NON-AGING RIMMED STEELS

Earle R. Saunders, Hudson, Ohio, and Russell M. Franks, New York, and Carl A. Beiser, Lewiston, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 17, 1958, Ser. No. 761,456
11 Claims. (Cl. 75—58)

1. A method for the production of non-aging rimmed steel which comprises providing a molten bath of steel, adding to said molten bath an addition agent comprising at least 25 percent manganese and at least one element selected from the group consisting of columbium, tantalum, vanadium, and boron in an amount sufficient to combine with the nitrogen in said steel.

2,999,750
PHOTOCONDUCTIVE LAYERS FOR ELECTROPHOTOGRAPHY

Alfred Miller, Munich, and Hildegard Haydn, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 10, 1957, Ser. No. 701,726
Claims priority, application Germany Dec. 14, 1956
3 Claims. (Cl. 96—1)

1. An electrophotographic sheet material comprising an electrically conductive base plate, and coated on said plate a non-photoconductive binding agent having dispersed therein a particulate photoconductive insulating substance for electrophotography, said binding agent consisting of a solid film-forming polyester of carbonic acid and an aromatic dihydroxy compound containing as sole reactive groups hydroxyl groups, said polyester being soluble in organic solvents and comprising structural units which are the esterification product of carbonic acid and a member of the group consisting of di-(monohydroxy-aryl)-alkanes, dihydroxy-diaryl-sulfones, dihydroxy-diaryl ethers and dihydroxy-diaryl thioethers, said groups members containing as sole reactive groups hydroxy groups, said photoconductive substance being employed in proportions of about 1 part per 0.3–2 parts by weight of binding agent, and in an amount of 5–40 g. per square meter.

2,999,751
CHEMICAL SENSITIZING OF PHOTOGRAPHIC SILVER HALIDE EMULSIONS

Fritz Dersch, Binghampton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 30, 1957, Ser. No. 675,043
5 Claims. (Cl. 96—107)

1. The process of increasing the speed of a photographic silver halide emulsion which comprises, digesting an emulsion of silver halide in an essentially inert colloidal carrier in the presence of a sensitizing amount of a reaction product prepared by kneading a mixture of 10 parts by weight of essentially inert solid gelatin and from 2 to 6 parts by weight of thioformamide until a highly viscous sticky mass is obtained.

2,999,752
ZINC FOOD SUPPLEMENT

Charles S. Webb, 256 Columbia Ave., Palmerton, Pa.

No Drawing. Filed Aug. 28, 1958, Ser. No. 757,684
5 Claims. (Cl. 99—2)

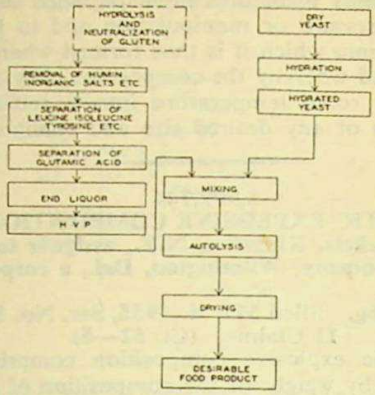
1. An animal and vegetable nutritional supplement composition consisting essentially of a uniform mixture of from about 80–90% by weight zinc oxide and from about 10–20% by weight dolomitic lime, said composition being in the form of discrete particles having sizes in the range of from about 44 microns to about 100 microns.

2,999,753
PROCESS FOR PRODUCING A PROTEINOUS FOOD PRODUCT

Irena E. Witwicka, Montreal, Quebec, and John S. Pavuk and Kenneth M. Gaver, Preville, Quebec, Canada, assignors to The Ogilvie Flour Mills Company, Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Oct. 13, 1958, Ser. No. 766,865
3 Claims. (Cl. 99—14)

1. A process for producing food products from end liquor obtained in processes for glutamic acid recovery from protein hydrolysates which comprises: alkalizing glutamic acid end liquor with sodium hydroxide, heating the resulting liquor under vacuum until the ammonia has been substantially completely eliminated, neutralizing the deammoniated liquor with hydrochloric acid, mixing moist yeast with between about 3.5 and about 4.5 parts by weight of said neutralized liquor per part by weight yeast solids, storing the resulting mixture until



autolysis of the yeast is substantially complete, and drying the resulting mixture.

2,999,754
COMPOSITION AND METHOD FOR THE PREPARATION OF BEVERAGES

Robert M. Lauck and Arthur Dock Fon Toy, Park Forest, Ill., assignors to Victor Chemical Works, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 3, 1959, Ser. No. 850,545
9 Claims. (Cl. 99—78)

4. A solid, water-soluble, substantially non-hygroscopic and stable beverage-forming composition comprising a flavoring agent, a coloring agent, dextrose monohydrate in an amount of about 10 to 20 times the combined weights of said flavoring and coloring agents, and a sufficient amount of phenylphosphonic acid to impart a tart, tangy taste to a beverage prepared therefrom.

2,999,755
FLUID SHORTENING AND METHOD OF MAKING THE SAME

Edward Handschumaker, Williamsville, and Horst G. Hoyer, Buffalo, N.Y., assignors to Spencer Kellogg and Sons, Inc., Buffalo, N.Y.

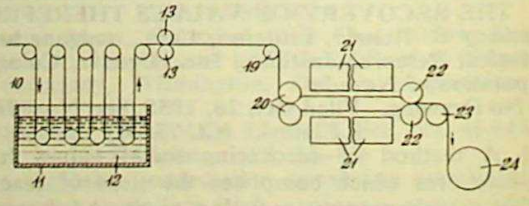
No Drawing. Filed Aug. 19, 1959, Ser. No. 834,629
16 Claims. (Cl. 99—118)

1. A fluid shortening comprising a normally liquid edible triglyceride oil as the major ingredient and from about 0.50% to about 1.75% of normally solid monoglycerides of a saturated fatty acid having a chain length greater than 18 carbon atoms uniformly distributed therein.

2,999,756
METHOD FOR PRODUCING CELLULOSIC SAUSAGE CASINGS AND PRODUCT

Edward A. Shiner, Chicago, and Cyril J. Brounstein, Park Forest, Ill., assignors to Union Carbide Corporation, a corporation of New York

Filed June 22, 1959, Ser. No. 821,706
4 Claims. (Cl. 99—176)



1. Method for producing tubular sausage casings of regenerated cellulose, the steps which comprise annularly extruding a viscose having a gamma number between 34

and 50 to form a tubular product, coagulating and regenerating the tubing to form gel tubing, washing the gel tubing, plasticizing the gel tubing with a polyhydric alcohol, simultaneously drying and stretching linearly and transversely the plasticized gel tubing, said stretching being within the range of 15% to 23% in the transverse direction and 2% to 8% in the longitudinal direction, and maintaining the casing wall thickness within a range corresponding to the formula:

$$B.D.G.=(D_a)^2(34.3 \text{ to } 42.3)$$

wherein B.D.G. is the bone dry gauge weight of cellulose in a 100 foot length of dried casing and D_a is the recommended stuffing diameter of the casing in inches reached by internal stuffing pressures of 100 to 150 mm. Hg, said viscose after regeneration and coagulation yielding a regenerated cellulose having a degree of polymerization corresponding to a viscosity of at least 4.3 centipoise according to TAPPI test method T-203-cm-50.

2,999,757
METHOD FOR PRODUCING CELLULOSIC SAUSAGE CASINGS AND PRODUCT

Edward A. Shiner, Chicago, and Cyril J. Brounstein, Park Forest, Ill., assignors to Union Carbide Corporation, a corporation of New York

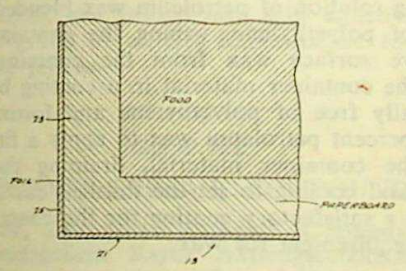
No Drawing. Filed Oct. 30, 1959, Ser. No. 849,742
5 Claims. (Cl. 99—176)

1. In the method for producing cellulosic sausage casing by the annular extrusion of a solution of a regeneratable cellulose derivative to form after regeneration, washing, and plasticizing, a gel cellulosic tubing, the steps which comprise concurrently drying and stretching said gel cellulosic tubing from 35% to 55% in the transverse direction and from 2% to 8% in the longitudinal direction, the wall thicknesses of the gel cellulosic tubing being such that after said drying and stretching, the bone-dry gauge of the dried casing is from 62.7*D*–10.3 to 93.9*D*–15.5 grams cellulose per 100 foot length of dried casing, D being the attained diameter of the casing in inches upon being wetted and inflated by an internal air pressure of 200 millimeters of mercury.

2,999,758
ICE CREAM PACKAGE

Frank Alan Brown, Lake Zurich, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware

Filed May 19, 1958, Ser. No. 736,243
3 Claims. (Cl. 99—180)



1. An improved ice cream package comprising ice cream contained in a self supporting carton, said carton being fabricated from a built-up board including paperboard having moisture absorption characteristics, and a moisture repellent barrier bonded to one side of said paperboard, the paperboard side of said built-up board forming the inner moisture-absorbing surface of said carton and being in contact with and absorbing moisture from said ice cream said paperboard being at least about 10 points in thickness.

2,999,759
MAGNESIA BRICK

Russell Pearce Heuer, Bryn Mawr, Pa., assignor to General Refractories Company, a corporation of Pennsylvania

No Drawing. Filed Aug. 14, 1959, Ser. No. 833,673
4 Claims. (Cl. 106—58)

1. In producing basic refractory brick having resistance to cracking in the unburned condition, the art which includes mixing (1) refractory particles of the class consisting of magnesia, mixtures of at least 15% of magnesia with chrome ore making up the balance, mixtures of magnesia with 5% to 75% olivine, and mixtures of magnesia with 1% to 25% alumina, said magnesia being dead-burned and further being characterized by having the property of promoting cracking of ordinary basic refractory brick when molded wet with water and drying at temperatures short of mineralizing temperatures; (2) a crack-preventing material consisting essentially of a boron oxygen compound in a concentration of 0.02% to 0.30% calculated as B_2O_3, said percentages being by weight on a dry basis and said compound being a specific additive supplementing the composition of the particles; and (3) water; molding into brick at pressures in excess of about 5000 p.s.i. the mixture thus formed; and drying the brick at temperatures short of mineralizing temperatures in the presence of said refractory particles.

2,999,760
CELLULOSE ACETATE COMPOSITION

Arthur Ferreira Cacella, Waynesboro, Va., and Helen Lyng White, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 23, 1958, Ser. No. 737,231
7 Claims. (Cl. 106—184)

4. A process for the formation of a composition which comprises contacting, at a temperature below about —20° C., a cellulose acetate having a combined acid value of from 59.8 to 60.0% with a solvent of methyl acetate and acetone containing from about 20 to about 80% by weight of methyl acetate, and thereafter raising the temperature of the mixture until it becomes a fluid solution; the said cellulose acetate being added so that it is present in the composition in amount of from about 16 to about 18% by weight.

2,999,761
LIQUID LAUNDRY STARCH

James L. Miller, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Feb. 20, 1959, Ser. No. 794,523
8 Claims. (Cl. 106—213)

1. A non-gelling liquid laundry starch composition consisting essentially of an aqueous starch paste containing from about 5% to about 15% thereof by weight of starch, said paste being stabilized against objectionable separation of the dispersed starch therein, during alternate freezing and thawing thereof, with about 1% to about 4% thereof by weight of a mixture of borax and sodium tripolyphosphate, the weight ratio of said phosphate to combined weight of borax and said phosphate ranging from about 0.1 to about 0.5.

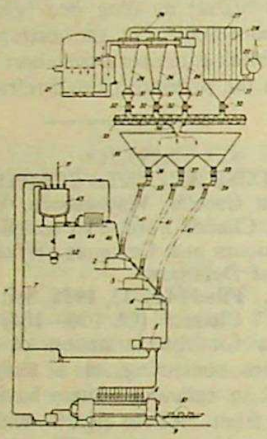
2,999,762
PROCESS FOR MANUFACTURING BINARY MIXTURES OF LIQUID SUBSTANCES WITH A PULVERULENT MATERIAL

André Louis Verdier, Paris, France

Filed July 12, 1957, Ser. No. 671,633
Claims priority, application France Aug. 2, 1956
3 Claims. (Cl. 106—309)

1. A process for producing homogeneous binary mixtures of a predetermined composition, useful for the

further preparation of rubber articles, paints, inks and plastics and consisting of particles of a solid phase thoroughly dispersed within a liquid phase, said solid phase being constituted by particles of pulverulent materials selected from the group of the pigments and fillers for said rubber articles, paints, inks and plastics, consisting of zinc oxide, titanium dioxide, lithopone, calcium carbonate, barium sulphate, silica, and iron oxide, and the liquid phase consisting of an agent of low volatility, capable of coating said particles and selected from the group of binders and plastifiers for said rubber articles, paints, inks and plastics, consisting of mineral oil residues, waxes, pine tar, linseed oils, China-wood oils, castor oils, stearic acid, oleoglycerophthalic resin, tricresylphosphate, said particles further being continuously formed in an enclosure separate from the outer atmosphere and being surrounded after they have been formed by a specific gaseous medium, said process comprising continuously collecting said particles from said enclosure while preventing any contact thereof with the outer atmosphere, continuously conveying in parallel through air-tight ducts said collected particles to a plurality of air-tight homog-



enizers in liquid communication with each other, continuously dispersing said particles in each homogenizer through a flow of said liquid phase continuously circulated in a closed circuit through successively each of said homogenizers, said conveying and dispersing being performed in the presence of said gaseous medium only for preventing self-agglomeration of said particles before being dispersed, adjusting the supply of said particles to said homogenizers and the rate of flow of said liquid therethrough so as to have at any instant a small volume of particles in the presence of a homogeneous mass in which the liquid phase is predominant, the volumetric liquid to solid ratio further being several times larger than that which corresponds to said predetermined composition, thereby obtaining a binary mixture having a liquid content in excess, thereafter continuously removing said liquid content in excess by circulating said mixture through serially disposed mechanical concentrating stages until the remaining binary mixture delivered by said stages reaches the desired composition, and recirculating said removed content of liquid in excess within said flow of liquid through said homogenizers.

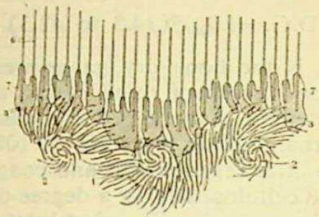
2,999,763

METHOD OF APPLYING FLOCK TO A FABRIC

François Noël Sommer, Paris, France, assignor to Societe Anonyme dite: La Manufacture de Feutres de Mouzon—Anciens Etablissements Roger Sommer et Ses Fils, Paris, France

Filed Mar. 9, 1959, Ser. No. 798,002
Claims priority, application France Mar. 11, 1958
4 Claims. (Cl. 117—33)

1. A method of manufacturing an article by flocking fibres of a certain length onto one face of a woven-fibres fabric coated beforehand with rubber latex, which comprises the steps of converting said latex into foam, spreading said foam against said face of the fabric so as to form above the upper fibres of said fabric a layer of relatively substantial thickness in relation to the height of the fibres to be flocked, carrying out the flocking step immediately thereafter by projecting the fibres to be flocked perpendicularly against said foam coated face



in order to cause the lower parts of said fibres to penetrate into said foam and inbetween the upper fabric fibres, allowing said foam to collapse, to deposit itself in the form of droplets around the flocked fibres and around the upper fabric fibres engaged by said flocked fibres and to retract by capillarity from the flocked fibres towards the upper fabric fibres thus coating only the lower ends of the flocked fibres with the upper fabric fibres.

2,999,764

PROCESS FOR SURFACING PRESOFTENED POLYAMIDE WITH AN IN SITU CURABLE ELASTOMER

Joseph Edgar Rhoads, Beaver Valley Road, R.D. 2, New Castle County, Del.

No Drawing. Filed June 19, 1957, Ser. No. 666,768
7 Claims. (Cl. 117—47)

6. The process comprising the steps of softening the surface of a synthetic polyamide base with a solvent softening agent for the polyamide, applying liquid urethane elastomer composition to the softened surface of the polyamide, and subsequently curing the urethane elastomer composition in situ.

2,999,765

COATING FOR MILK CONTAINERS

Arthur H. Boenau, Flushing, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed June 11, 1958, Ser. No. 741,240
3 Claims. (Cl. 117—76)

1. A two-step coating operation for milk containers comprising first dipping the container material in an impregnating solution of petroleum wax blended with 2–10 percent of polyethylene, wiping the container material to remove surface wax from the container material, dipping the container material in a coating bath at least substantially free of polyethylene and formed of more than 98 percent petroleum wax to apply a finished coating to the container material, draining the container material and cooling to set the finished coating, thereby providing a satisfactory coating for the container with a reduced requirement for wax.

2,999,766

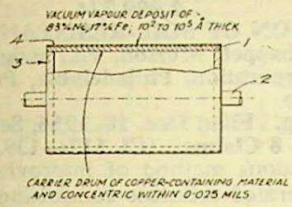
MAGNETIC SIGNAL CARRIERS

Fred Ashworth, Sale, and Alfred John Knowles, Flixton, Manchester, England, assignors to Metropolitan-Vickers Electrical Company Limited, London, England, a company of Great Britain

Filed Feb. 3, 1958, Ser. No. 712,644
Claims priority, application Great Britain Feb. 27, 1957
1 Claim. (Cl. 117—94)

A signal storing device comprising a surface layer on a non-magnetic carrier body, said surface layer being

formed by vacuum vapor deposition of an alloy containing 83 parts of pure nickel and 17 parts of pure iron and having a thickness between 10^2 and 10^5 A. providing a coercivity between 200 and 600 oersteds, and said


VACUUM VAPOUR DEPOSIT OF 83%NI/17%Fe, 10² TO 10⁵ Å THICK
1
2
3
4
CARRIER DRUM OF COPPER-CONTAINING MATERIAL AND CONCENTRIC WITHIN 0·025 MILS

carrier body comprising a rotatable cylinder of a material including copper, the outer surface of the cylinder being concentric with the axis of rotation within 0.025 mil and having a surface roughness not substantially more than 10^5 A.

2,999,767

COATING PROCESS AND COATING PROMOTER COMPOUNDS FOR BULLETS

Franklin B. Clay, Jr., Westport, Joseph F. Kenney, Bridgeport, Marshall J. Kidder, Fairfield, and Raymond H. Vandenberg, Stratford, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

No Drawing. Filed Jan. 16, 1959, Ser. No. 787,123

7 Claims. (Cl. 117—109)

1. The method of metal coating successive groups of metal articles comprising mixing a batch of said articles with an aqueous solution of an organic film-forming coating promoter agent comprising a weak organic acid and a plurality of salts taken from the group consisting of the alkyl and alkenyl trimethyl ammonium halides, agitating said mixture and spreading said coating agent as organic molecular films on the metal surfaces, adding a quantity of metal powder particles and by tumbling in a rotating drum developing high pressures between the metal surfaces of said articles and the particles of metal powder to part said films at the areas of contact and bring said surfaces together in metal-to-metal contact with each other and deposit and attach said particles to the article surfaces and to each other to deplete said particles of metal powder in the solution and build up said particles into continuous dense strongly adherent metal coatings on the surfaces of said articles to the desired thickness, removing said group of articles, separating, cleaning and resupplying said aqueous solution and a new group of articles into mixture for continuation of the process.

2,999,768

COMPLEX CHROMIC COMPOUNDS

Carl Boresch, Leverkusen-Wiesdorf, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 8, 1958, Ser. No. 747,108

Claims priority, application Germany July 19, 1957

3 Claims. (Cl. 117—121)

3. A process for increasing the hydrophobic properties of a surface wherein the surface is contacted with a complex chromic compound containing inorganic and organic acid radicals, in which the molecular ratio of chromium to the total of the organic acid radicals is below 1:1.

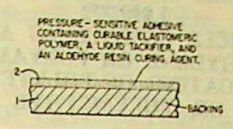
2,999,769

PRESSURE-SENSITIVE ADHESIVE TAPE EMPLOYING ADHESIVE CONTAINING CURABLE POLYMER, A LIQUID TACKIFIER AND ALDEHYDE RESIN CURING AGENT

Ralf Korpman, East Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Jan. 14, 1960, Ser. No. 2,450

13 Claims. (Cl. 117—122)


PRESSURE-SENSITIVE ADHESIVE CONTAINING CURABLE ELASTOMERIC POLYMER, A LIQUID TACKIFIER, AND AN ALDEHYDE RESIN CURING AGENT.
2
1
BACKING

1. A normally tacky and pressure-sensitive adhesive tape having improved "quick-stick" and cohesive characteristics comprising a flexible backing coated on at least one major surface thereof with an adhesive comprising a curable elastomeric polymer, a liquid tackifier in an amount from about 25 to about 500 parts per hundred parts of the elastomeric polymer, and an aldehyde resin curing agent soluble in the elastomeric polymer and selected from the group consisting of heat reactive phenol-formaldehyde resins, urea-formaldehyde resins and melamine-formaldehyde resins in an amount from about 5 to about 75 parts per hundred parts of elastomeric polymer, said liquid tackifier being in an amount at least equal to that of the aldehyde resin curing agent.

2,999,770

PROCESSES OF CHEMICAL NICKEL PLATING AND BATHS THEREFOR

Gregoire Gutzeit, Highland, Ind., assignor to General American Transportation Corporation, Chicago, Ill., a New York corporation

No Drawing. Filed Aug. 27, 1953, Ser. No. 376,977

31 Claims. (Cl. 117—130)

1. A method of depositing nickel from a chemical reduction plating bath, said method comprising immersing a catalytic article to be coated in a solution of nickel ion and a hypophosphite reducing agent capable of reducing the nickel in solution, said solution having a nickel ion concentration of about 7 grams per liter, a hypophosphite ion concentration of about 15 grams per liter, a relatively high plating temperature that is disposed near the boiling point thereof, and an initial pH within the range from about 5.5 to 9.1, and allowing said article to remain in said solution until a nickel coating of desired thickness is deposited thereon.

2,999,771

CHROME PLATING AND ANODIZING STOPOFF COMPOSITION

Norman I. Gaynes, 1254 Hedin Place, Rahway, N.J.

No Drawing. Filed Apr. 17, 1958, Ser. No. 729,079

10 Claims. (Cl. 117—132)

8. A method of masking and impeding the flow of ions onto and from selected portions of surfaces immersed in acid electroplating baths, anodizing baths, chemical etching baths and chemical milling baths, which comprises the steps of applying a plurality of coats of an organic solvent solution of a non-aqueous composition comprised of a major portion, by weight, of a blend of an unmodified vinyl chloride-vinyl acetate copolymer and vinyl chloride-vinyl acetate copolymer modified with interpolymerized maleic acid, and minor portions each of chlorinated biphenyl of 60% chlorination, an extender and propylene oxide in a volatile solvent onto said selected portions of said surfaces, drying each of said plurality of coats before applying a successive one of said coats, the ratio of the ingredients of said composition to

the unmodified vinyl chloride-vinyl acetate copolymer being

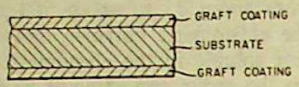
1.5 to 4.0 for the modified vinyl chloride-vinyl acetate copolymer
0.5 to 2.5 for the chlorinated biphenyl
0.5 to 4.5 for the extender
0.01 to 0.9 for the propylene oxide.

2,999,772

COATED ARTICLE COMPRISING A SUBSTRATE OF POLYETHYLENE OR POLYAMIDE AND A GRAFTED COATING OF POLYTETRAFLUOROETHYLENE OR POLYMETHYL METHACRYLATE

Robert E. Burk and Edward H. Price, West Chester, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 6, 1952, Ser. No. 319,184
2 Claims. (Cl. 117—138.8)



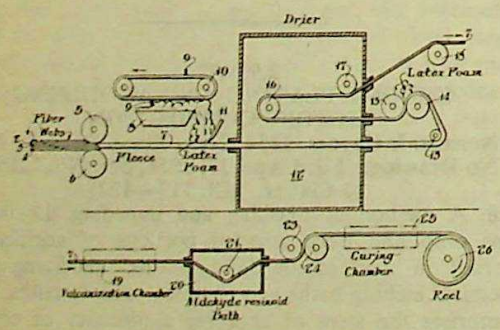
1. A coated article comprising a solid, shaped, thermoplastic, synthetic polymeric substrate and a continuous coating of a thermoplastic, synthetic polymer grafted to said substrate, said article being selected from the group consisting of a polyethylene substrate coated with polytetrafluoroethylene, a polyethylene substrate coated with polymethyl methacrylate, and a polyamide substrate coated with polytetrafluoroethylene; said coated article being characterized in that the coating is incapable of being removed from said substrate when the coated article is subjected to the action of a compound which is a solvent for the material comprising said coating and a nonsolvent for the material comprising said substrate.

2,999,773

PROCESS FOR THE PRODUCTION OF SHEET MATERIALS

Wilhelm Graulich, Leverkusen-Bayerwerk, Gustav Sinn, Bergisch-Neukirchen, and Carl-Ludwig Nottebohm and Robert Schabert, Weinheim an der Bergstrasse, Germany, assignors of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and one-half to Carl-Freudenberg KG.a.A., Weinheim-Bergstrasse, Germany, a corporation of Germany

Filed Oct. 2, 1956, Ser. No. 613,390
22 Claims. (Cl. 117—139.5)



15. A process for the production of sheet materials which comprises treating a material selected from the group consisting of fiber fleeces, textiles, paper and materials similar in structure to paper and textiles with an aqueous emulsion of a synthetic elastomer selected from the group consisting of polymers of conjugated diolefines and copolymers of 90–40 parts by weight of conjugated diolefines and 10–60 parts by weight of monoethylenically unsaturated compounds, said synthetic elastomer containing a vulcanizing agent and having a Defo value of at least 5,000, and being non-sticky and highly elastic, applying an aldehyde condensation resinoid to the treated material, and then vulcanizing the latter.

2,999,774

PRODUCTION OF SOIL-RESISTANT MATERIAL

Joseph W. Schappel, Morton, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 18, 1956, Ser. No. 628,965
8 Claims. (Cl. 117—139.5)

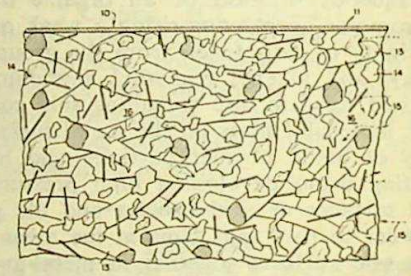
1. A continuous method of improving the soil resistance of regenerated cellulose comprising mixing an aqueous suspension of silica having a particle size of under 50 millimicrons with a hydrolizable, acidic, multi-valent metal salt selected from the group consisting of aluminum, zinc, magnesium, ferric and cupric salts, aging the mixture to form a bath containing from about 0.05 to about 0.30 percent by weight of silica, at least 90 percent of the latter mentioned silica having an average particle size of from about 0.5 to about 1.5 microns, continuously passing regenerated cellulose through said bath, removing excess bath fluid from said regenerated cellulose on leaving said bath, and thereafter drying said regenerated cellulose to fix retained silica particles thereon.

2,999,775

CIGARETTE FILLER COMPOSITION

Mortimer M. Marks, 166—25 Cryders Lane, Whitestone, N.Y.

Filed May 21, 1957, Ser. No. 660,459
3 Claims. (Cl. 131—17)



1. A low burning temperature tobacco mixture comprising tobacco fibers and a plurality of glass flakes inert at the tobacco burning temperature and having a thickness of the order of .0001 of an inch and a width in the order of the diameter of the tobacco fibers intermixed with said fibers to form a plurality of air retarding baffles within the mixture to reduce the temperature of combustion therein, said glass flakes consisting of at least 5% but a minor proportion of the tobacco mixture.

2,999,776

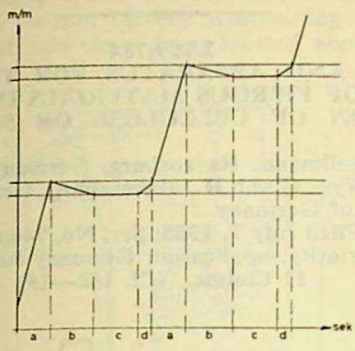
METHOD OF PRODUCING DIFFERENTIATED DOPING ZONES IN SEMICONDUCTOR CRYSTALS

Heinz Dorendorf and Heinz Henker, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Munich and Berlin, Germany, a corporation of Germany

Filed Jan. 9, 1956, Ser. No. 558,168
Claims priority, application Germany Jan. 13, 1955
4 Claims. (Cl. 148—1.6)

1. In a process for growing semiconductor crystals in which there is maintained at least one solid-liquid interface which is caused to move with respect to the semiconductor material under treatment in combination there-

with the step of passing a controlled direct current through said solid-liquid interface so as to superimpose a component of motion caused by the Peltier effect upon the moving solid-liquid interface.



2,999,777
ANTIMONIDE COATED MAGNETIC MATERIALS

Ernest J. Yamartino and Richard B. Falk, Wakefield, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 16, 1957, Ser. No. 702,801
10 Claims. (Cl. 148—31.55)

1. Finely divided magnetic particles of material selected from the group consisting of iron and iron-cobalt alloy, said particles having thereon a coating comprising the reaction product of antimony and said material, the weight ratio of said material to said antimony ranging from about 2.9 to about 11.7.

2,999,778
ANTIMONIDE COATED MAGNETIC MATERIALS WITH LEAD AND LEAD-ANTIMONY MATRICES

Lewis I. Mendelsohn, Swampscott, Mass., assignor to General Electric Company, a corporation of New York

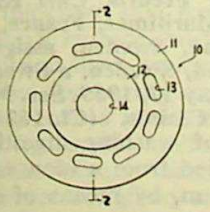
No Drawing. Filed Dec. 16, 1957, Ser. No. 702,803
5 Claims. (Cl. 148—31.55)

1. In a magnetic structure comprising finely divided particles of a magnetic material selected from the group consisting of iron and iron-cobalt alloy, said particles being coated with an antimonide of said material, a matrix of a material selected from the group consisting of lead and a lead-antimony alloy containing up to about 2 percent by weight of antimony there being at least about one part by weight of said matrix material to each part by weight of magnetic material.

2,999,779
METHOD AND APPARATUS FOR EDGE SEALING

John W. Morris, Tarentum, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

Filed Nov. 18, 1957, Ser. No. 697,063
2 Claims. (Cl. 154—2.71)

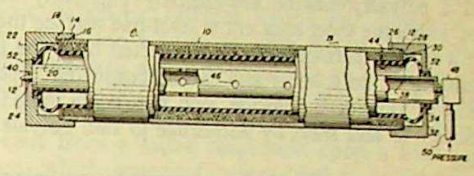


1. Apparatus for edge sealing the plastic interlayer of a prepressed laminated glass article consisting essentially of a disc having a uniform thickness of slightly less than the thickness of a plastic interlayer, means forming a hub connected to opposite sides of said disc of lesser diameter than said disc whereby said disc may be grasped and rolled along the edge of the laminated glass article and in contact with the edge of the plastic interlayer to compress the plastic interlayer at its edge and provide an improved seal between the plastic interlayer and the glass sheets forming the article, and a plurality of spaced openings in said disc disposed between and spaced from the outer periphery of said disc and said hub means, said openings increasing the flexibility of said disc.

2,999,780
METHOD OF CASTING TUBULAR ARTICLES

Lewis Perrault, Tulsa, Okla., assignor to H. D. Boggs Company, Ltd., Omaha, Nebr., a partnership

Filed Nov. 13, 1953, Ser. No. 391,821
4 Claims. (Cl. 154—83)

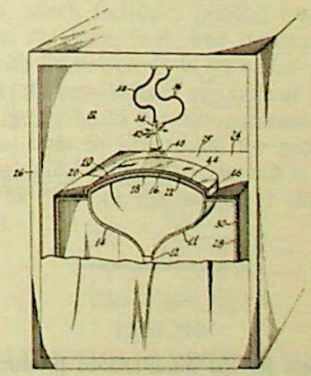


1. The method of casting fibrously reinforced tubular articles of settable material comprising: introducing a tubular formation of fibrous reinforcing material into a horizontally disposed tubular mold mounted for rotation about its longitudinal axis; introducing a measure of settable material into the mold; spinning the mold and its contents to evenly distribute the settable material through the reinforcing material; inserting a radially inflatable expansible mandrel into the lumen defined by the mold and its contents; inflating the expansible mandrel to bring its peripheral surface into contact with the contents of the mold; further expanding the mandrel against the inner surface of the contents of the mold while the mold is spinning; and curing the settable material to at least a non-flowable state while the mandrel is so applied.

2,999,781
METHOD OF DELAMINATING LAMINATED GLASS STRUCTURES

Ralph E. Davis, Marion, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 1, 1959, Ser. No. 856,490
2 Claims. (Cl. 154—120)



2. The method of delaminating a laminated cathode ray tube, said tube including a bulb having a neck portion, a funnel portion, and a faceplate portion, and a glass cap bonded to the external surface of said faceplate portion by an interlayer of resilient polymerized resin, said cap including a relatively flat front portion overlying said faceplate and a surrounding side portion formed as a short hollow cylindrical section integral with said front portion, said method comprising the steps of:

masking said bulb so as to expose only said cap and so as to shield said neck and funnel portions, eroding away said front portion of said cap by sandblast blowing abrasive particles thereupon to pulverize it, then fracturing the remaining said side portion of said cap to remove said side portion from said bulb, and removing said interlayer of polymerized resin from said bulb.

2,999,782

COMPOSITE HEAT-SEALABLE WRAPPING MATERIAL

John L. Justice and Charles M. Rosser, Wallingford, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 14, 1959, Ser. No. 826,922
17 Claims. (Cl. 154—136)

1. A composite wrapping material which comprises a normally hydrophilic, non-fibrous, flexible cellulosic sheet and a polyalkylenimine substantially uniformly distributed within the sheet adjacent at least one surface thereof, and a film of thermoplastic resin selected from the group consisting of polyolefins and sarans consisting predominantly of vinylidene chloride, said film being joined continuously to said sheet by anchorage to said polyalkylenimine.

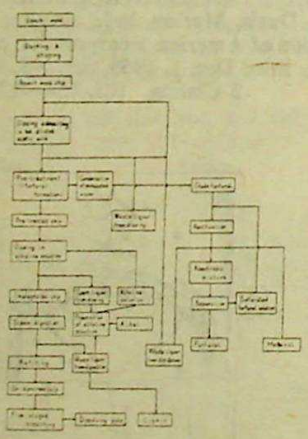
11. A method of making a composite wrapping material comprising passing a washed regenerated cellulose sheet in the gel state through a solution containing a polyalkylenimine thereby impregnating it with the solution, drying the sheet and applying thereto a film comprising a resin from the group which consists of polyolefins and sarans consisting predominantly of vinylidene chloride.

2,999,783

PROCESS FOR SIMULTANEOUS PRODUCTION OF HIGH α-PULP WITH FURFURAL FROM LATIFOLIATE TREE MATERIALS

Tomio Terai and Tetsuya Takamatsu, Fukushima-ken, Japan, assignors to Hodogaya Kagaku Kogyo Kabushiki Kaisha

Filed Sept. 29, 1958, Ser. No. 763,830
Claims priority, application Japan Oct. 5, 1957
8 Claims. (Cl. 162—14)



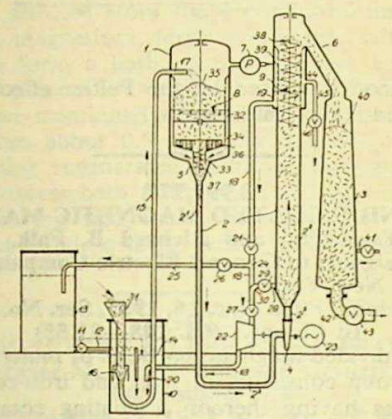
1. A process for the simultaneous production of high α-pulp and furfural from latifoliate wood, comprising the steps of saturating a quantity of chips of said wood with liquid by immersing said wood chips in a liquid selected from the group consisting of water and dilute aqueous organic acid at a temperature of 80 to 105° C., draining the excess liquid from said chips, passing superheated steam through said saturated chips so as to heat said chips to a temperature of 170 to 215° C. and to remove furfural from said chips, immersing the residue of the steamed chips in cold alkaline liquor so as to saturate said residue with alkaline liquor, and passing superheated steam through said saturated residue so as to heat the same to a temperature of 160 to 175° C.

2,999,784

PROCESS AND APPARATUS FOR THE TREATMENT OF FIBROUS MATERIALS IN THE PRODUCTION OF CELLULOSE OR SEMI-CELLULOSE

Heinrich Hullmann, Ravensburg, Germany, assignor to Escher Wyss G.m.b.H., Ravensburg, Germany, a corporation of Germany

Filed July 7, 1958, Ser. No. 746,697
Claims priority, application Germany July 10, 1957
11 Claims. (Cl. 162—19)



1. In a process for the treatment of fibrous materials in the production of cellulose or semi-cellulose in which the fibrous materials are impregnated with digesting liquid and digested at superatmospheric pressure and elevated temperature, the method of impregnating said materials comprising the steps: continuously circulating an excess quantity of digesting liquid in a closed flow path which includes first, second and third portions; subjecting said liquid to atmospheric pressure in said first portion of said flow path, to vacuum in said second portion of said flow path and to at least atmospheric pressure in said third portion of said flow path; continuously admixing the material to be impregnated with the circulating digesting liquid in said first portion; leading the so-obtained mixture to said second portion; separating part of the circulating material and liquid from one another during circulation through the second portion; recombining the material just separated and the circulating liquid as the material leaves the second portion; separating the material from the circulating liquid in said third portion of the path and replacing with new liquid the liquid which is absorbed and adsorbed by the material; and recirculating the liquid through the flow path.

2,999,785

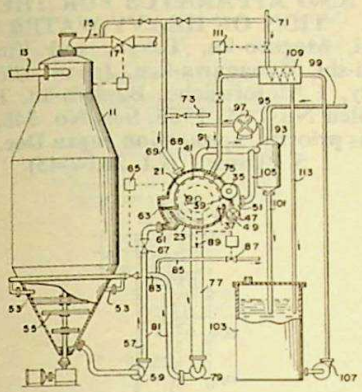
METHOD AND PLANT FOR WASHING OF CELLULOSIC PULP UNDER OVERPRESSURE

Johan Christoffer Fredrik Carl Richter, St. Jean Cap Ferrat, Alpes Maritimes, France, and Rolf Jomar Johansen, Karlstad, Sweden, assignors to Aktiebolaget Kamyr, Karlstad, Sweden, a Swedish company

Filed July 17, 1959, Ser. No. 827,954
4 Claims. (Cl. 162—60)

2. A method of washing digesting liquor from cellulosic pulp supplied from a blow tank to a filter having a rotary sieve drum, by means of steam liberated from said pulp by dropping the pressure thereon at the introduction of the pulp into said blow tank, which method comprises carrying the pulp while still under superatmospheric pressure from the blow tank to the pulp vat of

the filter; forming a layer of pulp on at least the upper exterior surface of said sieve drum; separately introducing said steam from said blow tank into a casing enclosing said sieve drum, and above the liquid level of said pulp vat therein; thereby maintaining the part of the exterior of said sieve drum located above the pulp



level in said filter surrounded by steam of said superatmospheric pressure; maintaining at the same time, the interior of said sieve drum at essentially atmospheric pressure; and continuously passing said blow steam through said pulp layer and into the interior of said drum, to displace or carry with it part of the liquid content of said pulp.

2,999,786

MACHINE GLAZED PAPER

Martin L. Downs and Ralph A. Nelson, Appleton, Wis., assignors to Thilmany Pulp & Paper Company, Kaukauna, Wis., a corporation of Wisconsin

No Drawing. Filed Aug. 9, 1957, Ser. No. 677,209
2 Claims. (Cl. 162—129)

1. In the manufacture of machine glazed paper, the steps of preparing a base sheet from cellulosic pulp having a freeness in excess of 600, superimposing on said base sheet a low freeness cellulosic pulp having a freeness of less than 400 and more than 50, said low freeness pulp comprising at least 5 percent and not more than 15 percent, by weight, of the finished sheet, on a dry basis, and thereafter pressing the superimposed low freeness pulp against a polished drying surface at a pressure in excess of about 80 p.s.i. and less than about 1500 p.s.i., and drying said sheet while maintaining said low freeness surface in contact with said polished drying surface to provide a finished machine glazed sheet.

2,999,787

MACHINE GLAZED PAPER

Martin L. Downs and Ralph A. Nelson, Appleton, Wis., assignors to Thilmany Pulp & Paper Company, a corporation of Wisconsin

No Drawing. Filed Oct. 4, 1957, Ser. No. 688,142
7 Claims. (Cl. 162—135)

1. A process for the manufacture of machine glazed type paper comprising the steps of forming a base sheet having an apparent density of less than about 11 pounds per ream per mil of thickness, said base sheet being leveled and having a glossy surface, said base sheet being dried to substantial normal sheet dryness to thereby maintain the leveled surface, preparing an aqueous mixture including a hydrophilic colloid which mixture provides a transparent film, said hydrophilic colloid mixture having water holding properties higher than about 3 seconds, setting said colloid on the said glossy surface of said base sheet without substantial penetration of said base sheet, and drying the combined sheet with the colloid contacting a smooth drier surface whereby machine glazed paper having improved gloss is provided.

2,999,788

SYNTHETIC POLYMER FIBRID PAPER

Paul Winthrop Morgan, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 22, 1959, Ser. No. 788,371
92 Claims. (Cl. 162—146)

1. A pulp comprising a plurality of supple, wholly synthetic polymeric particles having one dimension of minor magnitude relative to their largest dimension, a high surface area and possessing (*a*) an ability to form a waterleaf having a couched wet tenacity of at least about 0.034 lb./in./oz./sg. yd. when the said pulp is deposited from a liquid suspension upon a foraminous surface, which waterleaf, when dried at a temperature below about 50° C., has a dry tenacity at least equal to its couched wet tenacity and (*b*) an ability, when a plurality of the said particles is deposited concomitantly with staple fibers from a liquid suspension upon a foraminous surface, to bond the said fibers by physical entwinement of the said particles with the said fibers to give a composite waterleaf with a wet tenacity of at least about 0.034 lb./in./oz./sq. yd.

2,999,789

PAPER MAKING

Paul Quinn, Bath, England, assignor to W. S. Hodgkinson & Company Limited, Wells, England

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,863
Claims priority, application Great Britain Apr. 2, 1957
4 Claims. (Cl. 162—201)

1. A process for the production of synthetic resin-filled paper suitable for the production of decorative and wear-resistant laminates which comprises the steps of incorporating substantially water-insoluble melamine monomer in a fibre pulp, manufacturing a paper web with a smooth close surface which facilitates printing from said fibre pulp, printing the paper web, and treating the printed paper web with formaldehyde in the molar ratio of from 1 to 3 moles of formaldehyde per mole of melamine to convert the melamine to partially condensed melamine-formaldehyde resin in situ within the paper web, the amount of melamine employed being such as to constitute from 25% to 50% of the weight of the resin-filled paper.

2,999,790

STABLE ALUMINUM HYDROXIDE SUSPENSION

Charles E. Alford, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,435
6 Claims. (Cl. 167—55)

1. A colloidal liquid gastric antacid preparation comprising about 5.5 to 6.7% of gelatinous aluminum hydroxide in aqueous suspension and having incorporated therein about 0.5 to 7% of a hexitol as a stabilizing agent to prevent thickening and hardening.

2,999,791
PROCESS OF PRODUCING MIXTURE OF PTC, PROCONVERTIN AND PROTHROMBIN
Alfred H. Fowell, Walnut Creek, Calif., assignor to Cutter Laboratories, Berkeley, Calif., a corporation of California
Filed Aug. 6, 1957, Ser. No. 676,557
3 Claims. (Cl. 167—74)

1. The method of collectively recovering the proteins: plasma thromboplastin component, proconvertin, and prothrombin from non-citrated human plasma, comprising: mixing said plasma with an insoluble barium salt, separating said adsorbing agent and its adsorbed proteins from the plasma, eluting the adsorbed proteins from said adsorbing agent with a sodium citrate solution, adjusting the pH of the solution to a pH within the range of 3.0 to 4.5, precipitating the proteins with ethanol, and collecting the resulting precipitate.

2,999,792
SEROLOGIC TEST
Diego Segre, Madison, Wis., assignor to the United States of America as represented by the Secretary of Health, Education, and Welfare
No Drawing. Filed June 20, 1958, Ser. No. 743,473
1 Claim. (Cl. 167—84.5)

In an antigen-antibody serologic test for the detection of viral antigens, the improvement which comprises in preparing the antibody for said test as follows: suspending a finely ground anion resin in water, removing any precipitated resin particles, recovering the resin particles remaining in suspension, resuspending the resin particles remaining in suspension in an aqueous sodium hydroxide solution, recovering the resin particles from the sodium hydroxide suspension, washing the resin particles recovered from the sodium hydroxide suspension with water until the electrical conductivity of the wash water approaches that of distilled water, suspending the washed resin particles in water buffered to a pH of about 10.6 with 0.2 M tris (hydroxymethyl) aminomethane to provide a resin concentration w./v. of about 1 percent, diluting a gamma globulin fraction containing a viral antibody with distilled water to provide a gamma globulin concentration w./v. of about 0.1 percent, and then mixing about equal volumes of said buffered resin suspension with said diluted gamma globulin fraction, said mixture containing suspended resin particles coated with antibody and being adaptable for use in said test with inpure antigen in virus-containing material.

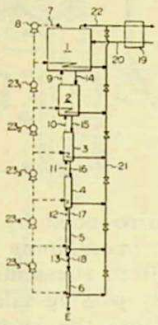
2,999,793
DIAGNOSTIC PREPARATION AND PROCESS FOR THE DETERMINATION OF SERUM ALKALINE PHOSPHATASE
Arthur L. Babson, Morris Plains, N.J., assignor to Warner-Lambert Pharmaceutical Company
No Drawing. Filed July 11, 1957, Ser. No. 671,151
7 Claims. (Cl. 195—103.5)

1. A dry preparation for use in the determination of serum alkaline phosphatase which comprises about 1 to about 3 percent by weight of sodium phenolphthalein phosphate, up to about 0.1 percent by weight of a magnesium salt and tris(hydroxymethyl)-aminomethane in an amount sufficient to maintain the serum pH in a range of about 9 to about 11.

2,999,794
RECOVERY OF QUINOLINE
Donald J. Foster, South Charleston, and Denvil E. Reed, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Sept. 24, 1958, Ser. No. 762,915
18 Claims. (Cl. 202—42)

1. A process for the recovery of quinoline from a mixture with other aromatic nitrogen bases which comprises subjecting said mixture to azeotropic distillation in the presence of kerosene so as to obtain a distillate comprised essentially of a quinoline-kerosene azeotrope and separating the quinoline component from said distillate.

2,999,795
METHOD AND APPARATUS FOR THE PURIFICATION OF HEAVY-WATER
Sakae Yagi, Meguro-ku, Tokyo, and Yuzo Uraguchi, Kawasaki-shi, Kanagawa-ken, Japan (both % Tokyo University, 1 Motofujicho, Bunkyo-ku, Tokyo, Japan)
Filed Nov. 21, 1955, Ser. No. 548,179
Claims priority, application Japan Dec. 3, 1954
5 Claims. (Cl. 202—45)

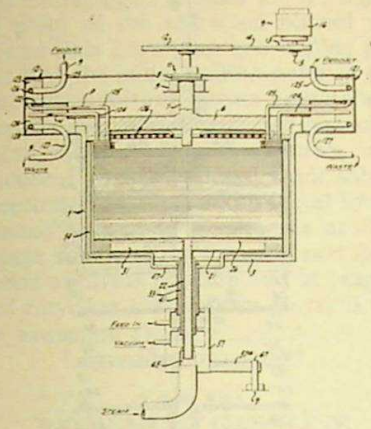


2. A method of producing heavy water concentrate comprising feeding feed water to the first of a series of at least three rectifying columns, each rectifying column having a plurality of spaced tubes filled with tower packings through which downflow water flows, said water being heated from outside of the tubes where compressed heating medium flows, feeding the downflow water in turn through succeeding columns, taking steam out of the top of each of the columns and feeding it to the bottom of the respective preceding columns into direct contact with the downflow water, recovering the heavy water concentrate coming out of the last column, combining condensates of heating medium from each column which condense while heating each column, returning a part thereof to the first column and feeding it as reflux water into direct contact with the steam rising in the column, passing the rest through a heat exchanger to heat the feed water being fed to the first column, and supplying the steam generated in the columns from said first column to the space between said spaced tubes and into indirect heat exchange relationship with the downflow water in each of said columns as heating medium, the portion of said steam entering each column being compressed before it enters each column a number of times equal to the number of the position of the column in said series of columns so that it absorbs energy necessary and sufficient for circulation and heating the columns.

2,999,796
MULTIPLE UNIT CENTRIFUGAL EVAPORATOR
Le Roy A. Bromley, Berkeley, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Filed Feb. 9, 1959, Ser. No. 791,949
7 Claims. (Cl. 202—236)

1. A centrifugal evaporator chamber comprising: a lower first metal evaporator disc; a first gasket ring coaxially stacked on said first evaporator disc; a metal separator ring coaxially stacked on said first gasket ring; a second gasket ring coaxially stacked on said separator ring; an upper second disc stacked on said second gasket ring; a feed water inlet port formed in said second gasket ring above said separator ring; a conduit mounted on the lower face of said first disc communicating between said

inlet port and the central portion of the upper face of said first disc; a waste water port formed in said first gasket ring below said separator ring; a condensate in-

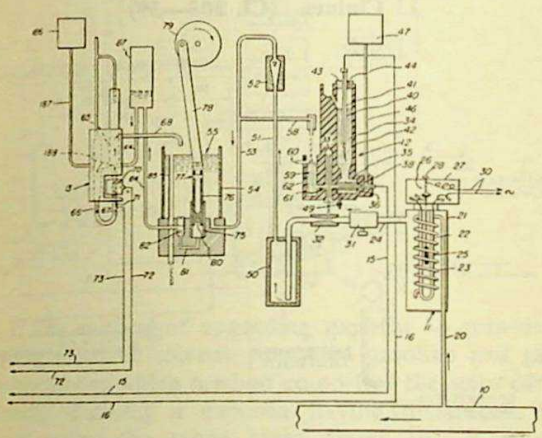


let port formed in said second gasket ring above said separator ring; and means for compressing said discs and rings thereby to form a fluid-tight evaporator chamber.

2,999,797
INDICATING AND CONTROL SYSTEM RESPONSIVE TO DEMAND

George A. Campbell, Pompton Plains, N.J., assignor to Wallace & Tiernan Inc., a corporation of Delaware

Filed Apr. 4, 1957, Ser. No. 650,768
7 Claims. (Cl. 204—1)



1. In a system for the treatment with chlorine of a main flow of unchlorinated aqueous liquid, in combination, means comprising a main vessel for said main flow, for advancing said unchlorinated liquid along said vessel in a predetermined direction past a first locality of the vessel to a second locality thereof downstream of the first locality, adjustable means connected to said vessel at the second locality for there supplying chlorine to said main flow, and means connected to said vessel at the first locality, for determining in advance the demand of the unchlorinated liquid for treatment with chlorine to reach a desired standard result of such treatment, said demand-determining means comprising conduit means for withdrawing a sample flow of said unchlorinated liquid, at a controlled rate, from said vessel at said first locality, electrolytic chlorine generating means connected to said conduit means for chlorinating said sample flow at a rate governed by supply of current to said generating means, adjustable current supply means having a circuit extending to said chlorine generating means for energizing the latter, means associated with the conduit means downstream of the sample chlorinating means for testing the sample flow of liquid after chlorination, to produce an electrical signal variable with the chlorine content of the treated liquid, standard means for producing, independently of the character of the liquid, a constant, comparable electrical signal representing the aforesaid desired standard result of chlorine treatment, and cyclically operating means electrically directly responsive to departures of the first signal from the second signal as representing departure of the chlorine content of the treated liquid from the desired standard result of treatment, for periodically adjusting said current supply means to change the rate of chlorination by the generating means in a direction to restore the chlorine content of the treated liquid to the desired standard result.

2,999,798
METHOD OF PRODUCING A WEAR-RESISTING SURFACE ON A METAL ELEMENT

Max Eitel, Esslingen (Neckar), and Franz J. Eisele, Stuttgart-Unterturkheim, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

No Drawing. Filed Dec. 9, 1955, Ser. No. 551,979
6 Claims. (Cl. 204—34)

1. Method of increasing the wear resistance of a metal element which comprises the steps of applying a layer consisting essentially of metal and of metal sulfide on the surface of the element, said layer being applied by simultaneously electroplating said metal and electrophoretically depositing said sulfide from a bath consisting essentially of a salt of said metal in solution and of said sulfide in suspension.

2,999,799
ELECTROPLATING OF NIOBIUM

Edward B. Saubestre, Elmhurst, and Edward P. Bulan, Flushing, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

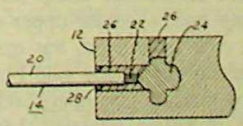
No Drawing. Filed June 26, 1958, Ser. No. 744,652
5 Claims. (Cl. 204—42)

1. A method for cladding a niobium substrate comprising the steps of connecting said substrate as the anode in an electrolytic cell containing an electrolyte of approximately 10% concentration by weight of sodium hydroxide in aqueous solution, applying a voltage across the anode-solution interface until a yellow film of niobium oxide is formed on a surface of said substrate, electrolytically depositing a first coating of nickel over said film, electrolytically depositing a second coating of a metal selected from the class consisting of nickel and iron over the nickel coated substrate, and heating the resultant structure to red heat to bond said coatings to said substrate.

2,999,800
WELDMENT AND PROCESS FOR MAKING THE SAME

William O. Reeside, Malvern, Pa., assignor to A. V. Smith Engineering Company, Narberth, Pa., a corporation of Pennsylvania

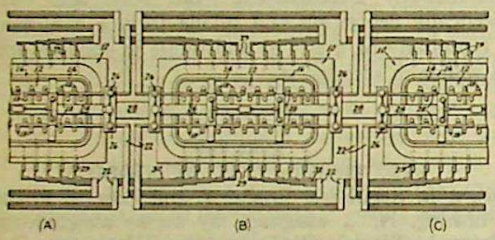
Filed June 12, 1959, Ser. No. 819,970
6 Claims. (Cl. 204—196)



1. A weldment comprising an insulator-sheathed copper conductor, a high silicon iron member having a pair of blind intersecting openings angularly disposed in respect to each other, one of said blind openings extending

generally axially in respect to said member, the other of said blind openings extending angularly to said one blind opening, said insulator-sheathed copper conductor extending through one of said openings, with the insulator-sheath being broken away to present bare copper wire intermediate the mouth of said one opening and the intersection between the openings, a generally cross-shaped fusion weld nugget occupying the region of intersection of both of said blind openings and extending into the portions of each opening on each side of the region of intersection between the openings, said weld nugget being spaced from the insulator-sheath on the copper conductor, said fusion weld nugget being formed from the fusion of thermite, copper from the copper conductor, and high silicon iron from the high silicon iron member, and a high-dielectric waterproofing material being disposed within each opening on the open side of said weld nugget.

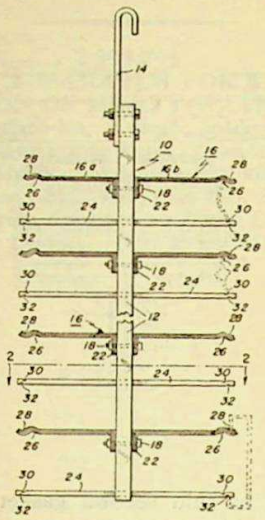
2,999,801
APPARATUS FOR SUPPLYING CURRENT TO HIGH AMPERAGE ELECTROLYTIC CELLS
Johan Wleugel, Oslo, Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway
Filed Aug. 2, 1957, Ser. No. 675,915
Claims priority, application Norway Oct. 28, 1952
6 Claims. (Cl. 204—244)



1. In an electrolytic cell of the type comprising a pot serving as a cathode, a carbon anode of rectangular cross-section with one axis longer than the other of the type which is carbonized in the furnace suspended above the pot and adapted to extend down into a bath within the pot, and contact bolts entering the anode by means of which current may be transmitted to the anode, two sets of anode bus bars adjacent the upper part of the anode running parallel with a major horizontal axis of the anode but electrically separated from each other near the center of their combined length, and means for transmitting current to such bus bars at corresponding ends of the bus bars relative to the outside faces of the anode, so that the flow of current in the respective members of the sets will be in opposite directions.

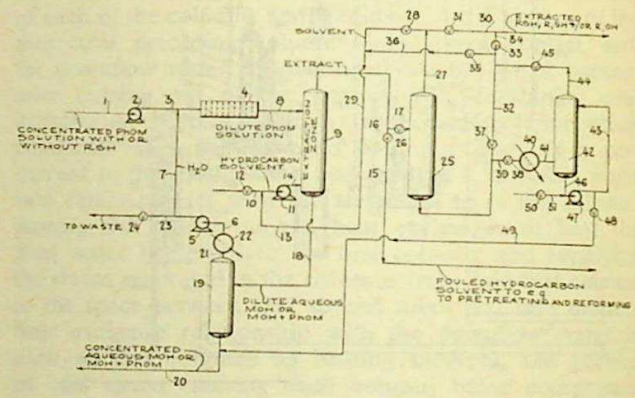
2,999,802
ANODIZING RACKS
Kenneth W. Gault, Newnan, Ga., assignor to The William L. Bonnell Company, Inc., Newnan, Ga.
Filed Nov. 3, 1958, Ser. No. 771,657
10 Claims. (Cl. 204—297)

1. A rack for holding articles during their treatment in an electrolyte bath or the like comprising a vertical metallic spine having means on its upper end adapted both to suspend the rack from a bus bar extending over the bath and to conductively engage said bus bar, and a pair of article-holding metallic pins operatively associated with said spine and extending laterally therefrom, said pins being spaced vertically from one another a predetermined distance adapting them to grip an article between their free outer ends, one of said pins comprising a plurality of coextensive plies of springy sheet metal disposed in face engagement and being secured at its inner end to the spine so as to extend therefrom as a cantilever, the portions of the plies together forming the



free outer end of said one pin being shaped to provide article-engaging and gripping means.

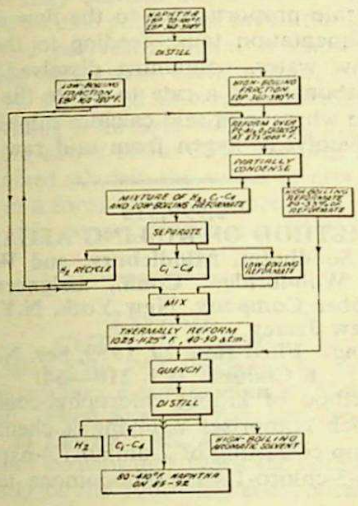
2,999,803
CAUSTIC ECONOMY AND AVOIDANCE OF POLLUTION
Claiborne A. Duval, Jr., Beaumont, Tex., assignor, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York
Filed June 15, 1959, Ser. No. 820,551
13 Claims. (Cl. 208—39)


SOLVENT
EXTRACT
CONCENTRATED FROM SOLUTION WITH OR WITHOUT R.OH
DILUTE FROM SOLUTION
HYDROCARBON SOLVENT
TO WASTE
DILUTE AQUEOUS MOH OR MOH + FROM
CONCENTRATED AQUEOUS MOH OR MOH + FROM
FOULED HYDROCARBON SOLVENT TO BE TO PRETREATING AND REFORMING

12. A method of recovering phenols from a coal tar fraction containing phenols which comprises in a caustic extraction stage contacting a coal tar fraction containing at least one phenol with aqueous alkali metal hydroxide containing at least 35 percent by weight of alkali metal hydroxide to obtain a liquid aqueous phase substantially immiscible with extracted coal tar fraction, said liquid aqueous phase comprising alkali metal hydroxide, alkali metal salt of at least one extracted coal tar phenol, and water in proportions to form two substantially immiscible liquid phases at a temperature within the range of about 60° F. to about 150° F., separating said liquid aqueous phase from extracted coal tar fraction, stratifying said separated liquid aqueous phase at a temperature within the range of about 60° F. to about 150° F. to obtain a liquid aqueous salt phase comprising alkali metal hydroxide, water, and alkali metal salt of the aforesaid coal tar phenol and a liquid hydroxide phase comprising water and alkali metal hydroxide, separating said liquid aqueous salt phase from liquid hydroxide phase, diluting said liquid aqueous salt phase with water to obtain dilute aqueous

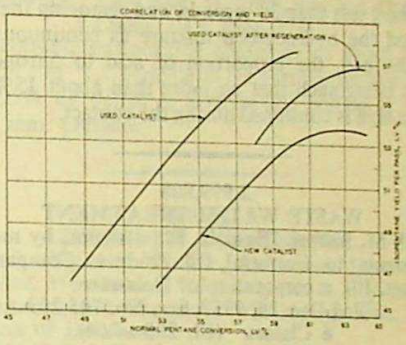
salt phase, in a solvent extraction stage contacting said dilute aqueous salt phase with a substantially water-immiscible solvent for extracted coal tar phenols selected from the group consisting of solvents of the aforesaid class having an initial boiling point at least 25° F. higher than the end boiling point of the extracted phenol and solvents of the aforesaid class having an end boiling point at least 25° F. lower than the initial boiling point of the extracted phenol to produce a solvent extract phase comprising one of the aforesaid solvents and extracted phenol and diluted aqueous alkali metal hydroxide solution, concentrating said dilute aqueous alkali metal hydroxide solution, recycling the concentrated aqueous alkali metal hydroxide solution so obtained at least in part to the aforesaid caustic extraction stage, fractionating the aforesaid solvent extract phase to obtain a solvent fraction and at least one phenol fraction, and recycling said solvent fraction to the aforesaid solvent extraction stage.

2,999,804
REFORMING GASOLINE
Henry D. Noll, Philadelphia, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware
Filed Dec. 9, 1958, Ser. No. 779,221
3 Claims. (Cl. 208—65)



1. The method of upgrading naphtha to provide high boiling aromatic solvent, upgraded gasoline and gaseous hydrocarbons which method comprises the steps of: fractionally distilling a naphtha having an initial boiling point within the range from about 70° F. to about 100° F. and an end boiling point within the range from about 360° F to about 390° F. to separate a low boiling fraction having an initial boiling point within the range of from about 70° F. to about 100° F. and an end boiling point within the range from about 160° to about 180° F. and a high boiling fraction having an initial boiling point near said end boiling point of the low boiling fraction and having an end boiling point within the range from about 360° F. to about 390° F.; hydrogenatively aromatizing said high boiling fraction in the presence of several mols of hydrogen per mol of hydrocarbon at superatmospheric pressure at a temperature within the range from 875° F. to 1000° F. over a platinum-alumina catalyst to form a highly aromatic reformate; partially condensing the effluent from the hydrogenative aromatizing zone to separate a liquid constituting from about 20% to about 33% of the reformate; mixing the remaining portion of the reformate with said low-boiling naphtha fraction, and passing said mixture through a thermal reforming zone at a temperature within the range from about 1025° F. to 1125° F. at a pressure of from about 40 to about 50 atmospheres at a soaking factor within the range from about 1 to 10 cu. ft./BSD; withdrawing and immediately quenching and cooling the effluent from the thermal reforming zone by contact with said hydrocarbon fraction separated by the partial condensation of the effluent from the hydrogenative aromatizing zone; and passing the thus prepared mixture of the quench oil and the effluent from the thermal reforming zone to a fractional distillation step from which there are recovered products comprising a minor amount of heavy aromatic solvent, and a major amount of naphtha having an F–1 octane number within the range from 85 to 92.

2,999,805
PARAFFIN ISOMERIZATION PROCESS
John W. Myers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 3, 1957, Ser. No. 669,797
9 Claims. (Cl. 208—140)



6. A process comprising reforming a naphtha fraction under reforming conditions in contact with a platinum-halogen-alumina catalyst; continuing said contacting until the coke deposit on said catalyst is in the range of 0.3 to 3 weight percent of the catalyst and its activity for reforming is too low for further reforming; thereafter contacting said catalyst in unregenerated condition containing said coke deposit under isomerizing conditions with a stream consisting essentially of isomerizable paraffin hydrocarbon of 4 to 8 carbon atoms per molecule admixed with H_2 so as to produce isomeric hydrocarbon with greater efficiency than would be obtained by regenerating said catalyst and using same in the isomerization step.

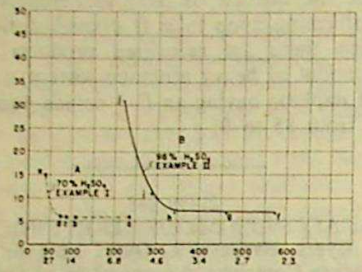
2,999,806
TREATMENT OF HYDROCARBON DISTILLATES
Ralph B. Thompson, Hinsdale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Mar. 13, 1959, Ser. No. 799,069
18 Claims. (Cl. 208—206)

2. A method of treating a sour hydrocarbon distillate which comprises reacting mercaptans contained in said distillate with air in the presence of an alkaline solution of cobalt phthalocyanine catalyst and a sufficient amount of a sodium phosphate salt to substantially prevent precipitation of said catalyst out of the solution.

2,999,807
REMOVAL OF NITROGEN COMPOUNDS FROM GASOLINE
Weigert C. Buningh, Amsterdam, and Cornelis D. Ten Have, Rotterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Oct. 23, 1959, Ser. No. 848,384
Claims priority, application Netherlands Mar. 31, 1959
2 Claims. (Cl. 208—254)

1. A process for the removal of nitrogen compounds from a liquid mixture of hydrocarbons containing un-

saturated hydrocarbons and boiling in the gasoline range comprising passing the hydrocarbon mixture in downward and concurrent flow with sulfuric acid of at least 65% concentration over a hydrophilic surface of a contact bed of solid, inert material, with the ratio by volume of the sulfuric acid to the hydrocarbon being less than one and with the contact time being selected with reference to the



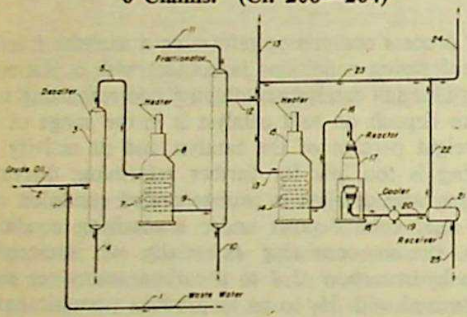
sulfuric acid concentration to substantially forestall polymerization of the unsaturated hydrocarbon, said contact time being less than 30 seconds, and removing the sulfuric acid and the hydrocarbon mixture as continuous phases from the bed, the proportion of acid to nitrogen compounds being such that no more than about 15% of the sulfuric acid is consumed during the contact.

2,999,808

WASTE WATER TREATMENT

Kenneth M. Brown, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Dec. 26, 1957, Ser. No. 705,209
6 Claims. (Cl. 208—264)



2. The method of removing phenols from water contaminated therewith which comprises contacting said water with crude oil to thereby transfer a major portion of the phenols from said water to said crude oil, withdrawing treated water reduced in phenol content, separately withdrawing crude oil containing phenols, fractionating said crude oil containing phenols to separate a light fraction comprising components boiling up to about 300° F., an intermediate phenol-containing fraction comprising components boiling from about 300° to about 650° F., and a heavy fraction comprising components boiling above about 650° F., subjecting said intermediate fraction to treatment with hydrogen at a temperature of from about 500° to about 800° F. to remove phenols from said intermediate fraction, and recovering a hydrotreated oil substantially free of phenols.

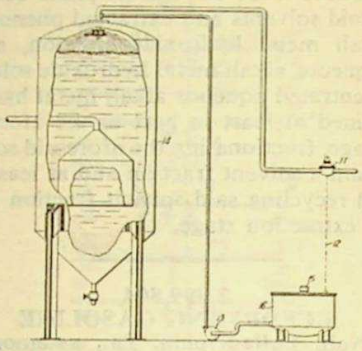
2,999,809

METHOD OF REMOVING RESIDUAL OXYGEN FROM WATER CONDITIONING SYSTEMS

Harold E. Eigner, Milwaukee, and Carroll E. Imhoff, New Berlin, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed May 20, 1957, Ser. No. 660,143
4 Claims. (Cl. 210—48)

3. In a hot process water softening system including a chemical tank, a raw water supply, and a sedimentation tank, the chemical tank and the raw water supply each being independently connected with the sedimentation tank to supply reactants thereto, the method of removing dissolved oxygen from water treated therein comprising: forming, in the chemical tank, a lime slurry consisting substantially of saturated calcium hydroxide; adding to said slurry sufficient sodium sulphite to form sodium hydroxide, calcium sulphite and an excess of calcium ions, said calcium sulphite being insoluble and unreactive with oxygen; agitating said slurry in the chemical tank to main-



tain said insoluble calcium sulphite in suspension with the slurry solution; feeding said slurry including said sodium hydroxide and said suspended calcium sulphite into the sedimentation tank of the hot process water softening system at a rate proportionate to the flow of raw water into the sedimentation tank; feeding to the sedimentation tank raw water, containing dissolved oxygen and calcium bicarbonate, at a rate to dilute the calcium ion concentration whereupon said calcium sulphite solubilizes to remove dissolved oxygen from said raw water.

2,999,810

METHOD OF KILLING ALGAE

Norman K. Sundholm, Middlebury, and Winchester L. Hubbard, Woodbridge, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 24, 1959, Ser. No. 822,416
6 Claims. (Cl. 210—64)

1. The method of killing chlorophyl-containing algae in water which comprises applying a chemical selected from the group consisting of 2-amino-1,4-naphthoquinone and 2-amino-3-chloro-1,4-naphthoquinone to said algae.

2,999,811

INHIBITOR COMPOSITION

James H. Schell, Houston, Tex., and Alfred Douty, Wyncote, and Harry L. Faigen, Philadelphia, Pa., assignors to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware

No Drawing. Filed Aug. 7, 1957, Ser. No. 676,703
2 Claims. (Cl. 252—8.55)

1. An inhibitor composition consisting essentially of an aqueous solution of from 5 to 50% of a salt from the group consisting of sodium chloride, potassium fluoride, sodium sulfate, sodium nitrate, magnesium chloride and lithium chloride and from 5 to 50% of an iron corrosion inhibitor from the group consisting of organic corrosion inhibitors which are soluble in a sodium chloride solution of at least 5% by weight concentration and including sufficient water to render the composition consolute.

2,999,812

OIL WELL TREATING MATERIAL

Stanley Earl Krahler, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 17, 1958, Ser. No. 709,466
6 Claims. (Cl. 252—8.55)

1. An acid soluble surface-active composition consisting of 6 to 12 parts by weight of a mixture of aliphatic

and cycloaliphatic hydrocarbons having an average molecular weight of about 250 and a boiling range of from about 285° to about 410° C., 3 to 12 parts by weight of the alkali metal salts of monosulfonic acids of said mixture and 25 to 35 parts by weight of the alkali metal salts of disulfonic acids of said mixture, 0 to about 6 parts by weight of sodium chloride, 17 to 24 parts by weight of isopropyl alcohol and the remainder of 100 parts by weight being water.

2,999,813
LUBRICANT COMPRISING A SULFURIZED MINERAL OIL AND A POLYVALENT METAL DITHIOCARBAMATE

Richard C. Givens and Melvin R. Hefty, Port Arthur, Tex., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Dec. 18, 1956, Ser. No. 628,980
9 Claims. (Cl. 252—33.6)

1. A lubricating composition consisting essentially of a stably sulfurized mineral lubricating oil in major proportion containing about 0.3 to 1.5 percent by weight of combined stable sulfur, about 5–20 percent by weight of a lead soap selected from the group consisting of lead naphthenates and lead soaps of fatty acids containing at least 8 carbon atoms per molecule, about 0.5–5 percent by weight of a sulfurized fatty oil, and about 0.1 to 10 percent by weight of an oil soluble polyvalent metal dithiocarbamate, wherein the said polyvalent metal is chosen from the group consisting of alkaline earth metals, cadmium and zinc, said stably sulfurized mineral lubricating oil being obtained by heating a mineral lubricating oil with sulfur at a temperature above about 350° F. until a sulfurized product is obtained wherein the sulfur is present substantially entirely in a form which is nonreactive with copper in the copper strip corrosion test at 212° F.

2,999,814
CUTTING FLUID

Ernst Laug, Union City, N.J., assignor to Socony Mobil Oil Company Inc., a corporation of New York

No Drawing. Filed Apr. 4, 1958, Ser. No. 726,335
11 Claims. (Cl. 252—34.7)

1. An aqueous coolant and lubricant composition consisting essentially of the following components:

	Weight percent
A reaction product obtained by reacting a solution of a saturated polyol and water with an olefin oxide, said polyol containing at least three hydroxyl groups, from three to six carbon atoms per molecule, and only carbon, hydrogen and oxygen, said water being present in the proportion of from 0.08 to 1.5 mols per mol of hydroxyl radical in said polyol, said olefin oxide being selected from the group consisting of ethylene oxide, propylene oxide and mixed ethylene and propylene oxides and being employed in a molal quantity of at least 0.4 times the total molal quantity of hydroxyl in the polyol plus water and at least 1.5 times the the molal quantity of water, and said reaction being conducted between about 80° C. and about 140° C. in the presence of an etherification catalyst	15–20
An alkanolamine fatty acid soap, the alkanolamine of which is selected from the group consisting of diethanolamine and triethanolamine and the acid of which is selected from the group consisting of castor oil fatty acids, ricinoleic acid, wool grease fatty acids and oleic acid	1.5–5.2
An alkanolamine phosphate, the alkanolamine of which is selected from the group consisting of diethanolamine and triethanolamine	11–22
A rust inhibitor selected from the group consisting of sodium, potassium and lithium nitrite and sodium carbonate	2–4
A germicide selected from the group consisting of phenol, the sodium salt of orthophenylphenol, the sodium salt of tetrachlorophenol, and methyl p-hydroxy benzoate	1.15–3.25

and the balance water.

2,999,815
AZEOTROPIC COMPOSITION

Bernhardt J. Eiseman, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 11, 1960, Ser. No. 48,817
1 Claim. (Cl. 252—171)

An azeotropic composition consisting of about 87.5% by weight of 1,1,2-trichloro-1,2,2-trifluoroethane and about 12.5% by weight of acetone and boiling at 45° C. and 760 mm. pressure.

2,999,816
AZEOTROPIC COMPOSITION

Edward J. Bennett, Newark, Del., and Howard M. Parmelee, Woodstown, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 15, 1960, Ser. No. 49,427
1 Claim. (Cl. 252—171)

An azeotropic composition consisting of about 93.6% by weight of 1,1,2-trichloro-1,2,2-trifluoroethane and about 6.4% by weight of methyl alcohol and boiling at 39° C. and 760 mm. pressure.

2,999,817
AZEOTROPIC COMPOSITION

Frank A. Bower, Woodstown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 15, 1960, Ser. No. 49,436
1 Claim. (Cl. 252—172)

An azetropic composition consisting of about 52% by weight of 1,1,2-trichloro-1,2,2-trifluoroethane and about 48% by weight of methylene chloride and boiling at 37° C. and 760 mm. pressure.

2,999,818
PHOSPHORS AND METHODS FOR PRODUCING SAME

George H. Morrison, Westbury, Frank C. Palilla, Maspeth, and Walter Zloczower, Forest Hills, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Nov. 16, 1959, Ser. No. 852,958
4 Claims. (Cl. 252—301.6)

2. A process for producing an electroluminescent phosphor from a copper activated, chloride coactivated cathodoluminescent zinc-cadmium sulfide phosphor, said process comprising the steps of mixing said cathodoluminescent phosphor with copper sulfate, the amount of copper added, as expressed in a percentage by weight of the cathodoluminescent phosphor, being about 35%; firing said mixture at a temperature falling within the approximate range 700°–900° C.; and washing said fired mixture with an alkali cyanide solution to remove all excess copper therefrom, thus producing a white emitting electroluminescent phosphor.

2,999,819
PHOSPHATE GLASS COMPOSITION FOR DOSIMETER

Gerald E. Blair, Pittsford, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York

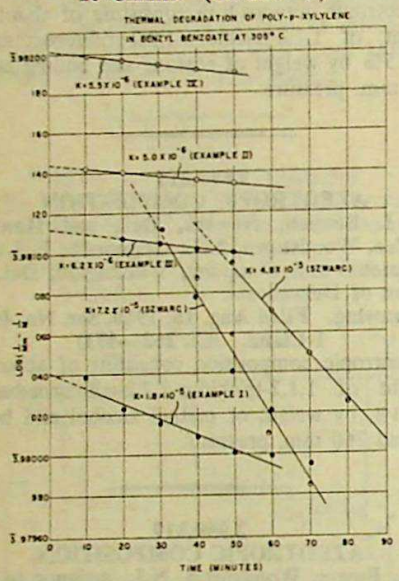
No Drawing. Filed Nov. 23, 1959, Ser. No. 854,591
2 Claims. (Cl. 252—408)

2. A dosimetric phosphate glass composition the batch constituents of which consist essentially of by weight 50 parts aluminum metaphosphate, 25 parts magnesium metaphosphate, 25 parts lithium metaphosphate, and 8 parts silver metaphosphate.

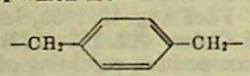
2,999,820
POLY-XYLYLENES PREPARED BY DECOMPOSITION OF QUATERNARY AMMONIUM COMPOUNDS

Thomas E. Young, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 2, 1955, Ser. No. 505,339
10 Claims. (Cl. 260—2)



1. Substantially linear p-xylylene homopolymer, the recurring units of which are



units, said homopolymer having a specific unimolecular thermal degradation constant, k, of less than 2.0×10^{-5} min.$^{-1}$, said constant being determined at 305° C. in solution in benzyl benzoate at a concentration of 0.39 gm. of polymer in 100 ml. of benzyl benzoate, said k being that of the equation

$$k=\frac{-2.303}{t}\log\left(\frac{\frac{1}{M_m}-\frac{1}{M}}{\frac{1}{M_m}-\frac{1}{M_0}}\right)$$

wherein t is the heating time in minutes at 305° C., M_m is the molecular weight of the p-xylylene unit, i.e., 104.14, M is the molecular weight of said polymer determined from the inherent viscosity of said solution at time t by the equation

$$M=\left(\frac{\eta_{inh.}}{3.3\times10^{-4}}\right)^{4/3}$$

and M_0 is the molecular weight of said polymer at time 0, the time elapsed in the viscosity degradation test from the initial heating of the viscometer to the earliest possible viscosity determination being less than twenty minutes, said homopolymer having an inherent viscosity of at least 0.55 after 50 minutes at 305° C. in solution in benzyl benzoate at a concentration of 0.39 g. of polymer in 100 ml. of benzyl benzoate, said homopolymer being prepared by heating to a temperature of at least 100° C. in an aqueous alkali metal hydroxide solution, maintained at at least 5 molal concentration, a member of the class consisting of quaternary ammonium hydroxides and quaternary ammonium salts of strong inorganic acids in which the quaternary ammonium nitrogen is attached to three methyl groups and to a methylene radical whose remaining valence is satisfied by carbon of a phenyl ring, said phenyl ring having in its p-position a methyl substituent.

2,999,821
REGENERATION OF ANION-EXCHANGE RESINS

Sallie A. Fisher, Levittown, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 17, 1958, Ser. No. 767,770
8 Claims. (Cl. 260—2.1)

1. A method for removing chloride and silicate anions from a styrene-divinylbenzene quaternary ammonium anion-exchange resin which has at least one of said anions on the resin's ion-exchange sites, said method comprising treating the anion-exchange resin containing any chloride and silicate anions with an alkali metal bicarbonate, whereby said anions on the resin are replaced by bicarbonate ions and the resin is then capable of being used so as ultimately to take on more of said anions.

2,999,822
MIXTURE OF TWO COPOLYMERS OF A CONJUGATED DIOLEFINIC COMPOUND AND AN OILY PLASTICIZER AND ARTICLES FORMED THEREFROM

Emert S. Pfau, Cuyahoga Falls, and Gilbert H. Swart and Kermit V. Weinstock, Akron, Ohio, assignors to The General Tire and Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 7, 1952, Ser. No. 292,308
17 Claims. (Cl. 260—2.5)

1. A mixture of (1) 5–80 parts of a copolymer of a conjugated diolefinic compound of less than 8 carbon atoms with a mono-olefinic compound copolymerizable therewith and comprising at least 80 parts by weight of said mono-olefinic compound, (2) 95–20 parts of a polymer of a conjugated diolefinic compound of less than 8 carbon atoms with a mono-olefinic compound copolymerizable therewith, having at least 50 percent by weight of diolefinic compound residue therein and being of a toughness such that a composition composed of 100 parts by weight thereof, 30 parts by weight of hydrocarbon oil and 65 parts of high abrasion furnace carbon black will have a Mooney plasticity of at least 60, and (3) an oily plasticizer in the amount of at least 30 percent by weight of said polymer.

2,999,823
FOAMED ALKYD-POLYISOCYANATE PLASTICS

Bernard A. Dombrow, Teaneck, N.J., assignor to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 22, 1955, Ser. No. 536,035
9 Claims. (Cl. 260—2.5)

1. A foamed cellular plastic material which is the reaction product of a mixture which comprises (*a*) an aromatic diisocyanate selected from the group consisting of meta-toluene diisocyanate and diphenyl-methane diisocyanate and (*b*) an alkyd resin having an acid number of from about 5 to about 80, said ingredients (*a*) and (*b*) being present in a ratio of from about 35 to about 150 parts by weight of (*a*) for each 100 parts by weight of (*b*), said ingredient (*b*) being the reaction product of a mixture comprising a polyhydric alcohol selected from the group consisting of diethylene glycol, triethylene glycol, 1,4 butylene glycol, glycerol, trimethylol propane, pentaerythritol and mixtures thereof and a blend of dibasic

acids consisting essentially of about 72% to 80% by weight of α-ethyl suberic acid, about 12% to 18% by weight of α,α'-diethyl adipic acid and about 6% to 10% by weight of sebacic acid, in which polyhydric alcohol-dibasic acid mixture the hydroxyl groups and carboxyl groups are in the ratio of from 3(OH):1(COOH) to 4(OH):5(COOH).

2,999,824

POLYEPOXIDE PRODUCTS

Fred G. Singleton, Pittsburgh, and William C. Hunt, Rosedale, Pa., assignors to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 6, 1956, Ser. No. 596,147
9 Claims. (Cl. 260—18)

1. The uncured thermosetting mixture consisting of a resinous polymeric epoxide having an epoxide equivalent ranging from about 140 to about 4000, and an ester formed by reacting castor oil and an organic acid selected from the group consisting of dicarboxylic acids, the two carboxyl groups of which are joined solely by carbon-to-carbon linkages, and the anhydrides thereof in the proportion of approximately three mols of said acid per mol of castor oil, said ester having at least a portion of the free carboxyl groups thereof esterified with a polyhydric alcohol selected from the group consisting of glycerin and a glycol.

2,999,825

EPOXY-POLYAMIDE-ESTER RESIN REACTION PRODUCT

Don E. Floyd, Robbinsdale, and Dwight E. Peerman, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Dec. 12, 1958, Ser. No. 779,859
7 Claims. (Cl. 260—18)

1. A process of curing epoxy resins which comprises reacting 60 to 70 parts by weight of an epoxy resin of a polyhydric phenol and an epihalohydrin, having an epoxy equivalent weight of 140 to 300 with 30 to 40 parts by weight of a polymeric amino polyamide-ester composition, said polyamide ester composition being a mixture of (A) an amino polyamide of the polymeric fat acids and a polyalkylene polyamine with (B) 10 to 20% by weight based on said polyamide of an alkyl ester of an alpha-beta unsaturated acid selected from the group consisting of maleic, fumaric, acrylic and methacrylic acids.

2,999,826

REACTION PRODUCT OF EPOXY RESINS AND POLYAMIDES FROM BLENDS OF ALIPHATIC POLYAMINES AND AROMATIC POLYAMINES

Dwight E. Peerman, Minneapolis, and Don E. Floyd, Robbinsdale, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Dec. 24, 1958, Ser. No. 782,655
5 Claims. (Cl. 260—18)

5. A cured composition of matter comprising from 60 to 75% by weight of an epoxy resin being a polyglycidyl ether of polyhydric phenol having an epoxy equivalent weight of 160 to 325 and from 40 to 25% by weight of an amino polyamide of polymeric fat acids and a mixture of an arylene polyamine and two different alkylene polyamines, said polyamide having an amine number of from 50 to 450.

2,999,827

EPOXY COATING COMPOSITIONS

Charles W. McGary, Jr., and Charles T. Patrick, Jr., South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 21, 1959, Ser. No. 788,038
45 Claims. (Cl. 260—23)

1. A composition comprising the products of reaction of (1) a polyepoxide containing at least two cyclohexene oxide groups, and (2) an aliphatic monocarboxylic acid containing between three and twenty-two carbon atoms in an amount sufficient to provide between about 0.3 and 0.7 carboxyl equivalents per epoxy equivalent of said polyepoxide.

2,999,828

WAX COMPOSITION AND SHEET MATERIALS COATED THEREWITH

Robert W. Dannenbrink, Neenah, and George E. Unmuth, Menasha, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 5, 1959, Ser. No. 810,985
9 Claims. (Cl. 260—28.5)

1. A wax composition containing as the essential components by weight from about 5% to about 50% of a polyethylene having a molecular weight between about 3,000 and about 12,000, a density between 0.880 and 0.910 and between about 7% and about 12% of its carbon atoms present as branched chain carbons, and between about 5% and about 90% of an intermediate wax derived from petroleum distillate and having a melting point between about 140° F. and 170° F., a viscosity of less than 10 centistokes when measured at 210° F. and a refractive index, when measured at 194° F., of at least 1.4292 plus 0.0002 refractive index units per degree Fahrenheit by which the melting point of said wax exceeds 140° F.

2,999,829

AQUEOUS SHELL MOLDING COMPOSITION COMPRISING MALEIC ACID, FURFURYL ALCOHOL, AND UREA

Leo H. Treat, Inkster, Mich., and Robert C. Shaffer, West Los Angeles, Calif.

No Drawing. Filed June 25, 1954, Ser. No. 439,483
4 Claims. (Cl. 260—29.6)

1. A metastable, substantially monomeric solution capable of rapid polymerization to an infusible and insoluble solid upon the application of heat, said solution comprising about 100 parts of furfuryl alcohol, 20 to 50 parts of a substance selected from the group consisting of maleic acid and maleic anhydride and 2 to 10% of urea based upon the combined weight of the furfuryl alcohol and maleic constituent, said solution being stabilized by the presence of 0.2 to 5% by weight of ammonium chloride.

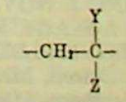
2,999,830

COMPOSITION COMPRISING A REFRACTORY MATERIAL AND A POLYMETHACROLEIN REACTION PRODUCT AND METHOD OF PRODUCTION THEREOF

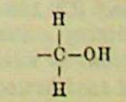
Elbert E. Gruber, Cuyahoga Falls, and Edward F. Kalafus, Akron, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 21, 1958, Ser. No. 729,492
19 Claims. (Cl. 260—29.6)

1. A composition of matter comprising (1) a refractory material and (2) from 0.1 to 10% by weight of said refractory material of at least one water soluble polymeric material having a molecular weight of at least 500 and being selected from the group consisting of a homopolymer consisting essentially of recurring units of A and a copolymer consisting essentially of recurring units of at least 70% A and the balance B, where A has the formula



where Y is an alkyl group of from 1 to 12 carbon atoms, where Z comprises from about 20 to 45%



groups and from 20 to 45%

groups, where X is a cation having the formula

$$-NHR_1R_2R_3$$

where R_1, R_2 and R_3 are selected from the class consisting of hydrogen, alkyl, and alkylaryl radicals having less than 6 aliphatic carbon atoms, with the balance being

groups, and where B is the residue of at least one monomer selected from the class consisting of butadiene, isoprene, cyanoprene, dimethyl butadiene, chloroprene, styrene, acrylonitrile, methacrylonitrile, methyl isopropenyl ketone, methyl vinyl ketone, alpha methyl styrene and vinyl toluene.

2,999,831

VULCANIZED RUBBER PRODUCT CONTAINING A METAL HYDRIDE AS AN ANTIOXIDANT

Hugh T. Stewart, Los Gatos, Calif., assignor to Stewart Development Company, San Fernando, Calif., a copartnership

No Drawing. Filed June 26, 1957, Ser. No. 668,020
4 Claims. (Cl. 260—33.6)

1. A vulcanized rubber product containing as an antioxidant a hydride selected from the group consisting of sodium hydride, calcium hydride, titanium hydride and zirconium hydride; said hydride being uniformly dispersed throughout said product and being present in an amount from 0.10 part to 5.0 parts by weight per 100 parts by weight of the rubber ingredient of said product.

4. The product of claim 1 in which said hydride is dispersed in powdered form in a medium selected from the group consisting of white mineral oil, paraffin oil, and petrolatum.

2,999,832

METHOD OF MANUFACTURING DYED, HARDENED, RESINOUS PRODUCTS OF CONDENSATES

Gerhard Faerber, Rheinberg, Rhineland, Germany, assignor to Deutsche Solvay-Werke G.m.b.H., Solingen-Ohligs, Germany

No Drawing. Filed Mar. 5, 1957, Ser. No. 643,939
Claims priority, application Germany Apr. 27, 1956
22 Claims. (Cl. 260—37)

1. A method of dyeing and hardening a hardenable epoxy groups-containing resinous condensate of a member selected from the group consisting of epichlorohydrin and dichlorohydrin with at least one member selected from the group consisting of a polyhydric alcohol and a polyhydric phenol, which method consists essentially of mixing the condensate with a dyestuff selected from the group consisting of triarylmethane dyes, thiazine dyes, azine dyes and indamine dyes, said dyestuff containing nitrogen selected from the group consisting of primary, secondary and tertiary nitrogen atoms; and heating the resulting mixture to a temperature at which the mixture is hardened, whereby said mixture is simultaneously dyed and hardened.

2,999,833

PROCESS FOR MIXING A NOVALAK RESIN AND SAND WITH AN A-STAGE RESIN AND SAND TO OBTAIN A SHELL MOLDING SAND

Julius M. Bleuenstein, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing. Filed Apr. 9, 1954, Ser. No. 422,259
1 Claim. (Cl. 260—38)

The process of producing a molding sand for shell molding comprising intensively mixing together a Novalak resin and a mass of sand heated sufficiently to cause the Novalak resin to coat the individual sand grains, intensively mixing together a second quantity of sand and an A stage phenol formaldehyde resin containing a polymerization catalyst, said second mixing operation being conducted at a temperature too low to permit substantial polymerization of said A stage phenol formaldehyde resin, combining said two sand batches while the hot mixed sand retains a substantial amount of heat and mixing the combined sands until a free flow, non-dusting sand is obtained.

2,999,834

FIBROUS MATERIALS HAVING COATINGS CONTAINING POLYMERIZATION CATALYSTS

Marco Wismer, Richland Township, Allegheny County, and Ronald R. Rabenold, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa.

No Drawing. Filed July 11, 1958, Ser. No. 747,854
8 Claims. (Cl. 260—40)

1. A method of catalyzing the interpolymerization of mixtures of $C{=}CH_2$ monomers and polyesters of alpha-beta ethylenic dicarboxylic acids and dihydric alcohols, which comprises incorporating into the mixtures, reinforcing fibrous material said material having discrete coatings upon the fibers of a polyester of a polyol and a dicarboxylic acid which is free of ethylenic unsaturation, said discrete coatings containing a peroxide polymerization catalyst.

2,999,835

RESINOUS MIXTURE COMPRISING ORGANOPOLYSILOXANE AND POLYMER OF A CARBONATE OF A DIHYDRIC PHENOL, AND PRODUCTS CONTAINING SAME

Eugene P. Goldberg, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 2, 1959, Ser. No. 784,433
7 Claims. (Cl. 260—42)

1. A resinous mixture comprising, by weight, from about 0.1% to 20% organopolysiloxane and a polymer of a carbonate of a dihydric phenol in which the carbonate group is attached directly to a carbon atom of an aromatic ring, the weight of said organopolysiloxane being based on the weight of the carbonate polymer.

2,999,836

REACTION PRODUCT OF N-GLYCIDYL-PHTHALIMIDE AND A DIANHYDRIDE COMPOUND, PROCESS FOR PREPARING SAME, AND MODIFICATION THEREOF

Richard E. Ludwig, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 16, 1959, Ser. No. 806,758
12 Claims. (Cl. 260—42)

1. The reaction product of a composition comprising N-glycidylphthalimide and a dianhydride compound, the amount of said dianhydride compound being that which provides between about 0.5 and about 1.5 anhydride groups for each epoxide group of said N-glycidylphthalimide.

10. The reaction product of a composition as claimed in claim 1, wherein a modifier selected from the group consisting of alcohols and epoxidized silicone resins is included.

2,999,837

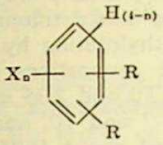
INHIBITION OF MOLD CORROSION FOR QUATERNIZED POLYMERS

Boris Franzus, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 29, 1957, Ser. No. 655,537
15 Claims. (Cl. 260—45.7)

1. A compounded stock of quaternizable heterocyclic nitrogen-base polymer which can be cured with substan-

tially no mold corroding effect comprising a polymer of a monomer system which comprises a vinyl-substituted pyridine compound and a copolymerizable conjugated diene having from 4 to 8 carbon atoms per molecule; an organic halide quaternizing agent which quaternizes with a mold corroding effect selected from the group consisting of hexachloro-p-xylene, benzotrichloride, and benzal chloride; and a corrosion inhibiting amount of at least 0.05 mol per mol of quaternizing agent of a compound having the formula selected from the group consisting of

(A) 

and (B) metal salts of Formula A containing at least one carboxy substitutent, where each X is selected from the group consisting of carboxy and cyano and n is an integer from 1 to 3, said X's when plural being positioned on nonadjacent ring carbon atoms, and each R is selected from the group consisting of hydrogen and alkyl radicals having from 1 to 6 carbon atoms, the metal of said metal salts being selected from the group consisting of alkali metals, nickel, iron, copper and lead.

2,999,838

POLYMERIC COMPOSITIONS AND SHAPED STRUCTURES THEREOF

James Maurice Quinn, Tonawanda, N.Y., and Allan Kenneth Schneider, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 4, 1959, Ser. No. 797,045
9 Claims. (Cl. 260—45.7)

1. A composition of matter comprising polyvinyl chloride and 1–15% of at least one stabilizing compound selected from the group consisting of the reaction product of 1,2,4-trimethylenecyclohexane with methyl methacrylate, the reaction product of 1,2,4-trimethylenecyclohexane with methyl acrylate and the reaction product of 1,2,4-trimethylenecyclohexane with maleic anhydride.

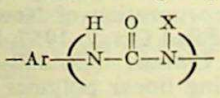
2,999,839

STABILIZATION OF ELASTOMERS CONTAINING UREYLENE GROUPS

Harold C. Arvidson, Jr., Wilmington, Del., and Norman Blake, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 17, 1958, Ser. No. 709,445
14 Claims. (Cl. 260—45.9)

1. A stabilized composition of matter comprising a synthetic segmented elastomeric polymer having a plurality of low-melting polymeric segments alternating in the polymer chain with high-melting ureylene-containing segments, the polymerica segment being the residue remaining after removal of the terminal hydroxyl groups from a hydroxyl-terminated polymer having a melting point below 60° C. and a second order transition temperature below room temperature, the ureylene-containing segment containing at least one group of the formula



wherein Ar represents an aromatic radical attached to the

group of the formula through a carbon atom of an aromatic ring and X is selected from the group consisting of hydrogen and a monovalent organic radical, said segmented polymer having admixed therein between 1% and 15% by weight of an aliphatic amine having a molecular weight above about 280.

2,999,840

STABILIZED UNCURED COPOLMERS OF BUTADIENE AND STYRENE

Richard W. Bell, Ernest Csendes, and Herbert F. McShane, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 9, 1959, Ser. No. 819,008
1 Claim. (Cl. 260—45.85)

An uncured copolymer of 1,3-butadiene and styrene stabilized against gel formation during mechanical shearing at a temperature above about 135° C. by incorporating therein (1) at least 0.75% by weight of said copolymer of an antioxidant selected from the group consisting of a diaryl amine and the reaction product of 2 moles of acetone and one mole of diphenyl amine, and, (2) at least 0.1% by weight of said copolymer of a promoter compound selected from the group consisting of (*a*) a polyol having the structure $HOCH_2(CHOH)_4CH_2X$, wherein X is taken from the group consisting of —OH and lower alkyl —NH, (*b*) an ammonium citrate, and, (*c*) an acetate salt of an N(lower alkyl)glucamine said alkyl group having 1–4 carbon atoms.

2,999,841

STABILIZED ELASTOMER COMPOSITIONS

Ernest Csendes, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 24, 1958, Ser. No. 782,622
6 Claims. (Cl. 260—45.95)

1. A cured elastomer selected from the group consisting of natural rubber and synthetic rubber made from conjugated dienes, said elastomer having incorporated therein a stabilizing amount of a phenolic antioxidant and a non-polymeric hydrocarbon polyol, said polyol being a saturated acylic aliphatic compound containing 3 to 6 carbon atoms and having at least 3 alcoholic hydroxyl groups as its sole substituents, each of said hydroxyl groups being on a different carbon atom, said phenolic antioxidant and said polyol being present in an amount within the range of 0.1 to 5 parts by weight per 100 parts of said elastomer.

2,999,842

STABILIZED CURED ELASTOMERS

Ernest Csendes, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 24, 1958, Ser. No. 782,627
6 Claims. (Cl. 260—45.95)

1. A cured elastomer selected from the group consisting of natural rubber and synthetic rubber made from conjugated dienes, said elastomer having incorporated therein a stabilizing amount of a phenolic antioxdant and a thio-substituted aliphatic polyol, said polyol being of the formula

$$HOCH_2—(CHOH)_n—CH_2SH$$

wherein n is an integer within the range of 3 to 4, said phenolic antioxidant and said polyol being present in an amount within the range of 0.1 to 5 parts by weight per 100 parts of said elastomer.

2,999,843

POLY-ALPHA-OLEFINS STABILIZED WITH 2-HYDROXY-4-PENTADECYLBENZOPHENONE

Alfred Johannes Porck, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,668
6 Claims. (Cl. 260—45.95)

1. A poly-alpha-olefin composition containing dispersed therein 0.0005% to 10% by weight of a 2-hy-

droxy-4-pentadecylbenzophenone as an agent to inhibit deterioration of said polyolefin composition by ultraviolet light.

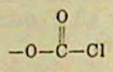
2,999,844

POLYCARBONATE PREPARATION UNDER ANHYDROUS CONDITIONS

Erwin Müller and Otto Bayer, Leverkusen, Germany, assignors, by direct and mesne assignments, of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and of one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 21, 1957, Ser. No. 691,168
Claims priority, application Germany Oct. 22, 1956
7 Claims. (Cl. 260—47)

1. A method for making a polycarbonate which comprises reacting a compound selected from the group consisting of phosgene and an organic compound having two



groups with an organic compound having at least two hydroxyl groups selected from the group consisting of a polyhydric alcohol, a phenol and a sodium salt of a phenol while the said reactants are dissolved in an inert organic solvent therefor, said solvent having a member selected from the group consisting of a carbonate, a bicarbonate and an hydroxide of a member selected from the group consisting of an alkali metal and an alkaline earth metal suspended therein, said reaction being conducted under substantially anhydrous conditions at a temperature whereby any water produced by the reaction is removed substantially immediately by azeotropic distillation and a product substantially free from chlorine is obtained.

2,999,845

COPOLYMER CONTAINING POLYCARBONATE AND POLYSILOXY CONSTITUENTS

Eugene P. Goldberg, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 2, 1959, Ser. No. 784,431
11 Claims. (Cl. 260—47)

1. The process of preparing a copolymer composition containing dihydric phenol derived groups linked with carbonate and siloxy groups which comprises reacting together under esterification conditions a dihydric phenol, phosgene and organodihalosilane.

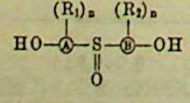
2,999,846

HIGH MOLECULAR WEIGHT THERMOPLASTIC AROMATIC SULFOXY POLYCARBONATES

Hermann Schnell, Krefeld-Urdingen, and Heinrich Krimm, Krefeld-Bockum, Germany

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,194
Claims priority, application Germany Nov. 30, 1956
9 Claims. (Cl. 260—49)

1. A film-forming high molecular weight resinous thermoplastic linear polycarbonate of a dihydroxy compound having the formula



in which A and B are aromatic radicals selected from the class consisting of benzene and naphthalene radicals, R_1 and R_2 are alkyl substituents containing up to four carbon atoms, and each n is a number from 0 to 4 inclusive, each hydroxyl group of said dihydroxy compound being esterified with carbonic acid, thus forming long polycarbonate molecular chains.

2,999,847

UREA AND THIOUREA RESINOUS COMPOSITION

Joseph John Nemes, Somerville, and Richard Dickran Vartanian, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 16, 1959, Ser. No. 793,275
7 Claims. (Cl. 260—69)

1. A process for preparing a stable, hydrophilic, partially polymerized, potentially thermosetting, resinous product, comprising a partially alkylated dimethylol urea and a partially methylolated thiourea and free thiourea, which comprises methylolating by reacting in an aqueous medium relative proportions of one mole of urea with from between 1.50 and 2.35 moles of formaldehyde at a pH of between 7 and 10, and at a temperature of between about 70 and about 100° C. for from 0.25 to 2.0 hours, adjusting the pH of the reaction mixture to from between 4 and 6, alkylating the urea-formaldehyde condensate by reacting it with from between about 0.3 and 2.0 moles of a saturated aliphatic monohydric alcohol containing from 1 to 3 carbon atoms at a temperature of from between 70 and 100° C. for from between 0.25 and 2.0 hours, adjusting the pH of the reaction mixture to a value from between 7.0 and 9.0 and adding thereto from between 0.18 and 0.75 mole of thiourea, reacting said thiourea with from between 0.03 to 0.35 mole of available formaldehyde at a temperature of from between 50 and 100° C. for from 1 to 30 minutes to produce a stable resinous product, said stable resinous product being one which does not become turbid when maintained for four weeks at 25° C. and which does not hydrophobe when diluted with three times its volume of water at 20° C.

2,999,848

SULFONE POLYESTERS

Donald M. Young, Geneva, Switzerland, and Christian F. Horn, New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,392
16 Claims. (Cl. 260—75)

1. A fiber-forming linear polymer consisting essentially of structural units of the general formula

$$—OR''OOCRSO_2R'SO_2RCO—$$

wherein the R's are divalent saturated alkylene radicals containing from three to eight carbon atoms, R′ is a para-dialkylene phenylene radical containing up to ten carbon atoms and R″ is a divalent radical selected from the group consisting of saturated alkylene, alkylene ether and aralkylene radicals containing from two to ten carbon atoms.

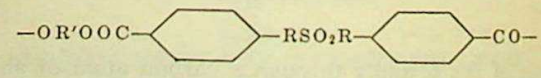
2,999,849

SULFONE POLYESTERS

Donald M. Young, Geneva, Switzerland, and Christian F. Horn, New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,423
13 Claims. (Cl. 260—75)

1. A fiber-forming linear polymer consisting essentially of recurring structural units of the general formula



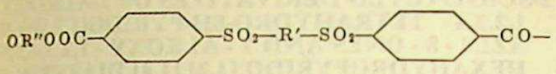
wherein the R′s are saturated alkylene radicals containing from one to five carbon atoms and R′ stands for a member selected from the group consisting of divalent saturated alkylene, alkylene ether and aralkylene radicals containing from two to ten carbon atoms.

2,999,850
SULFONE POLYESTERS

Donald M. Young, Geneva, Switzerland, and Christian F. Horn, New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,425
14 Claims. (Cl. 260—75)

1. A fiber-forming linear polymer consisting essentially of repeating structural units of the general formula



wherein R′ is a divalent saturated alkylene radical containing from four to six carbon atoms and R″ is a divalent radical selected from the group consisting of saturated alkylene, alkylene ether and aralkylene radicals containing from two to ten carbon atoms.

2,999,851
ISOCYANATE EXTENSION OF VERY HIGH MOLECULAR WEIGHT POLYESTERS

Otto C. Elmer, Akron, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 16, 1957, Ser. No. 702,810
4 Claims. (Cl. 260—75)

1. The method which comprises reacting a dihydroxy terminated polyester having a molecular weight of from about 10,000 to 20,000 and comprising the reaction product of an aliphatic dicarboxylic acid of from 4 to 10 carbon atoms and at least one glycol having the formula $HO(RO)_nH$ where n is an integer from 1 to 50 and where R is an alkylene radical of from 2 to 4 carbon atoms with an organic diisocyanate to form a chain extended millable polyester urethane, the mol ratio of said polyester to said diisocyanate being essentially about 1:1.

2,999,852
METHOD OF PREVENTING POLYMERIC PYRROLIDONES AND PIPERIDONES FROM ADHERING TO POLYMERIZATION VESSELS IN WHICH THEY ARE PREPARED

Edgar E. Renfrew, Lock Haven, and Saul R. Buc, Easton, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 4, 1958, Ser. No. 778,049
6 Claims. (Cl. 260—78)

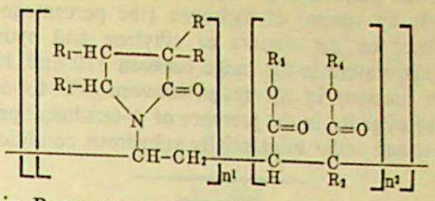
1. The method of preventing polymeric pyrrolidones and piperidones from adhering to polymerization equipment in which they are prepared comprising cleaning the interior surfaces of said equipment and drying said interior surfaces, wetting the cleaned and dried interior surfaces of said equipment, prior to polymerization, with a solution containing 0.5 to 10 parts by weight of an alkyltrichlorosilane of 10 to 24 carbon atoms, followed by exposing the treated surface to an aqueous fluid containing 1% by weight of a non-ionic alkyl phenol-ethylene oxide surfactant and drying the same and thereafter polymerizing the corresponding monomers of said pyrrolidones and piperidones in the dried equipment and recovering the polymer therefrom.

2,999,853
COPOLYMERS OF N-VINYLPYRROLIDONES WITH DIALKYL MALEATES OR FUMARATES

William M. Perry, Bethlehem, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 23, 1957, Ser. No. 680,027
6 Claims. (Cl. 260—78.5)

1. A water insoluble, tacky and flexible polymeric material adaptable as pressure sensitive adhesive characterized by the following general formula:



wherein R represents a member selected from the class consisting of hydrogen and methyl groups, R_1 represents a member selected from the class consisting of hydrogen, methyl and ethyl groups, R_2 represents a member selected from the class consisting of hydrogen and alkyl groups of from 1 to 3 carbon atoms, R_3 and R_4 represent an alkyl chain of from 3 to 14 carbon atoms, and wherein the ratio of n^1/n^2 ranges from 1 to 5.

2,999,854
FLUORINATED ELASTOMERS AND CROSS LINKING THEREOF

Francis J. Honn, Westfield, and Willard M. Sims, Hackensack, N.J., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed July 31, 1958, Ser. No. 752,196
10 Claims. (Cl. 260—79.5)

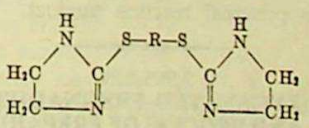
1. A vulcanization process which comprises reacting at a temperature above about 50° C. minor amounts of a cross-linking agent selected from the group consisting of organic and inorganic peroxy compounds which are stable below about 50° C. and inorganic polysulfides with an elastomeric copolymer of perfluoropropylene and a fluorinated ethylene selected from the group consisting of fluoropropylene and a fluorinated ethylene selected from vinylidene fluoride and 1,1-fluorochloroethylene.

2,999,855
PROCESS OF VULCANIZING CHLOROPRENE POLYMERS

Ralph E. Miegel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 17, 1959, Ser. No. 827,732
9 Claims. (Cl. 260—79.5)

1. A process of vulcanizing chloroprene polymers wherein zinc oxide, magnesia and from 0.3 to 5.0 parts by weight per 100 parts of the polymer of the compound having the formula



wherein R is taken from the group consisting of $—CH_2CH_2—$ and $—CH_2—CH=CH—CH_2—$, are incorporated into said chloroprene polymer followed by heating to effect curing of said chloroprene polymer.

2,999,856
POLYETHYLENE WAXES AND PROCESS FOR PREPARING THEM

Herbert Bestian and Joachim Lange, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 9, 1958, Ser. No. 779,054
Claims priority, application Germany Dec. 19, 1957
10 Claims. (Cl. 260—94.9)

1. A process for the manufacture of a low molecular, waxy polyethylene having a flowing/dropping point in the range between 100 and 115° C., a melt viscosity at 120° C. in the range between 100 and 3000 centistokes

and a crystalline portion between 55 and 75%, which comprises polymerizing ethylene with an addition of 5 to 30% by volume of hydrogen (the percentage being calculated on the mixture of ethylene and hydrogen) at a temperature in the range between 120 and 180° C. and a pressure in the range between 300 to 600 atmospheres gauge in the presence of di-tert-butyl peroxide catalyst and under substantially anhydrous conditions.

2,999,857

PROCESS FOR THE SEPARATION OF N-PARAFFINS FROM HYDROCARBON OILS

Alfred Hoppe, Frankfurt am Main, Germany, assignor to Edeleanu Gesellschaft m.b.H., Frankfurt am Main, Germany, a body corporate of Germany

No Drawing. Filed Oct. 3, 1958, Ser. No. 765,019
Claims priority, application Germany Oct. 10, 1957
6 Claims. (Cl. 260—96.5)

1. A process for the separation of n-paraffins from hydrocarbon oils in the presence of an oil solvent by treating said oils with an aqueous solution of urea containing 10–40% by weight of water to form an n-paraffin-urea adduct containing solvent and unused urea, characterised in that the formation of the n-paraffin-urea adduct is carried out in two stages under small differences of pressure, the pressure of the second stage being lower than the pressure of the first stage, and in the presence of the aforesaid oil solvent the boiling point of which is such that when the pressure is reduced in said second stage the boiling point of said solvent is exceeded and evaporates, whereby the adductt is physically broken up without decomposition of the adduct into its components, but liberates the unused urea which forms new adduct.

2,999,858

PREPARATION OF SUCROSE MONOESTERS

Gerard Warren Curtis, Fairlawn, N.J., assignor to Robert S. Aries, New York, N.Y.

No Drawing. Filed Sept. 18, 1956, Ser. No. 610,640
14 Claims. (Cl. 260—234)

1. The process of preparing a monoester reaction product of sucrose and a higher fatty acid in which an alcohol by-product is formed, comprising reacting finely divided sucrose with a lower alkyl ester of a higher fatty acid in the presence of a finely divided basic compound selected from the group consisting of the alkali and alkaline-earth oxides, hydroxides and carbonates in a liquid hydrocarbon medium in which sucrose is substantially insoluble, removing the alcohol by-product formed, and recovering the sucrose monoester in substantial yield as principal reaction product.

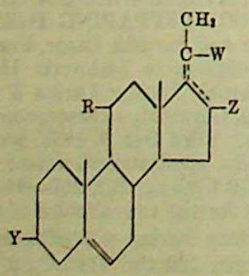
2,999,859

11,20-BIS OXYGENATED PREGNADIENE-3-ONE 3-KETALS AND PROCESS OF PREPARING THEM

George I. Poos, North Plainfield, and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 8, 1955, Ser. No. 520,902
22 Claims. (Cl. 260—239.55)

22. An 11,20-bis-oxygenated-pregnadiene-3-one 3-ketal having a double bond at C–17, which can be represented by the following formula:



wherein Y is a ketal substituent, R is a radical selected from the group which consists of hydroxy and keto, W is a radical selected from the group which consists of β-hydroxy, lower alkoxy and keto, and Z is a radical selected from the group which consists of hydroxy, lower alkoxy and keto.

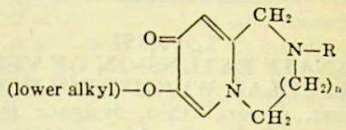
2,999,860

2-SUBSTITUTED DERIVATIVES OF 7-ALKOXY-1,2,3,4 TETRAHYDRO-8H-PYRIDO[1.2.]PYRAZIN - 8 - ONES AND 7 - ALKOXY - 1,2,3,4,5,9-HEXAHYDROPYRIDO [1.2] [1.4] DIAZEPIN-9-ONES AND THEIR DERIVATIVES

Carl Peter Krimmel, Mundelein, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 6, 1959, Ser. No. 824,929
11 Claims. (Cl. 260—268)

1. A compound of the structural formula



wherein R is a member of the class consisting of lower alkyl and lower hydroxyalkyl radicals and *n* is a positive integer smaller than 3.

2,999,861

SEGREGATION OF ORGANIC NITROGEN COMPOUNDS

Raymond N. Fleck, Whittier, and Carlyle G. Wight, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Nov. 12, 1958, Ser. No. 773,142
13 Claims. (Cl. 260—290)

1. A process for treating a mixture derived from a nitrogenous mineral oil source essentially comprising basic and non-basic organic nitrogen compounds, which comprises: (1) contacting said mixture with a lean granular adsorbent comprising a partially dehydrated Type X zeolitic metallo alumino silicate having pores of substantially uniform diameter between about 7 A. and about 13 A., whereby there is obtained a rich adsorbent containing adsorbed non-basic organic nitrogen components of said mixture and a raffinate product which is rich in the basic organic nitrogen components of said mixture; (2) separating said raffinate product from said rich adsorbent; and (3) treating said rich adsorbent to recover the adsorbed non-basic organic nitrogen components therefrom.

2,999,862

PROCESS FOR CONVERTING CRUDE COPPER PHTHALOCYANINE INTO FINELY DIVIDED β-FORM

Georg Geiger, Binningen, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland, a Swiss firm

No Drawing. Filed Aug. 14, 1959, Ser. No. 833,699
Claims priority, application Switzerland Aug. 15, 1958
5 Claims. (Cl. 260—314.5)

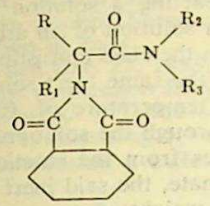
1. A process for the conversion of crude reddish-blue copper phthalocyanine into the finely divided greenish-blue β-form having improved tinctorial strength, which consists in grinding dry crude reddish-blue copper phthalocyanine at elevated temperature in a ball mill in the presence of water as the exclusive grinding assistant and recovering the finely divided greenish-blue β-form.

2,999,863
ALPHA-PHTHALIMIDO-ACETAMIDE DERIVATIVES

Sidney D. Upham, Pearl River, N.Y., assignor to Oklahoma State University of Agriculture and Applied Science, a corporation of Oklahoma

No Drawing. Filed July 27, 1953, Ser. No. 370,645
3 Claims. (Cl. 260—326)

1. New alpha, alpha-disubstituted-alpha-phthalimido-acetamides having the following formula:



in which R and R_1 are selected from the group which consists of alkyl and cycloalkyl and R and R_1 together are cycloalkyl, and R_2 and R_3 are selected from the group which consists of hydrogen, alkyl and cycloalkyl groups.

2,999,864
METAL DERIVATIVES OF BORANE ADDUCTS

Henry C. Miller, Wilmington, Del., and Earl L. Muetterties, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 15, 1958, Ser. No. 780,194
7 Claims. (Cl. 260—340.6)

1. Compounds represented by the formula

$$M(BH_3YR_2)_z$$

where M is a metal selected from the class consisting of groups I-A and II of the periodic table, having a valence of z and an atomic number no greater than 56, Y is an element of group V-A of the periodic table having an atomic number no greater than 51, and R is a monovalent hydrocarbon radical of 1 to 10 carbon atoms selected from the group consisting of alkyl and cycloalkyl.

2,999,865
EPOXIDES AND METHOD OF PREPARING SAME

Benjamin Phillips and Frederick C. Frostick, Jr., Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 31, 1957, Ser. No. 706,302
4 Claims. (Cl. 260—348)

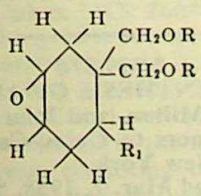
1. A triepoxide, 3,4-epoxycyclohexane-1,1-dimethanol bis(9,10-epoxystearate).

2,999,866
EPOXIDES AND METHOD OF PREPARING THE SAME

Paul S. Starcher, Charleston, and Samuel W. Tinsley, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 31, 1957, Ser. No. 706,303
4 Claims. (Cl. 260—348)

4. Compounds of the formula:



wherein R_1 represents a member selected from the group consisting of hydrogen and methyl and R represents members selected from the group consisting of hydrogen and the group

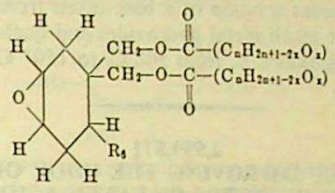
wherein R_2 is a member selected from the group consisting of hydrogen and alkyl groups of from 1 through 17 carbon atoms.

2,999,867
EPOXIDES AND METHOD OF MAKING THE SAME

Paul S. Starcher, Charleston, and Samuel W. Tinsley, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 31, 1957, Ser. No. 706,305
4 Claims. (Cl. 260—348)

4. Compounds of the formula:



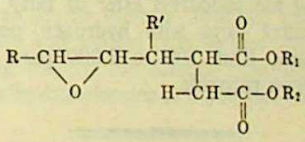
wherein R_6 represents a member selected from the group consisting of hydrogen atoms and methyl and the group $(C_nH_{2n+1-2x}O_x)$ represents an epoxyalkyl group containing n carbon atoms, $2n+1-2x$ hydrogen atoms and x oxygen atoms, said oxygen atoms being present only as oxirane oxygen attached to vicinal carbon atoms, n represents the integer 17 and x represents a whole positive integer in the range of from 2–3.

2,999,868
2,3-EPOXYALKYLSUCCINIC ACID DERIVATIVES AND THE PROCESS OF MAKING THEM

Benjamin Phillips, Paul S. Starcher, and Donald L. Heywood, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 23, 1958, Ser. No. 744,007
8 Claims. (Cl. 260—348)

1. Compounds of the formula:



wherein R and R′ represent members selected from the group consisting of hydrogen atoms and lower alkyl groups of from one through nine carbon atoms, the sum of the carbon atoms of R and R′ being at least one and not greater than nine and R_1 and R_2 represent alkyl groups containing from four through twelve carbon atoms.

2,999,869
ALKALI METAL SALTS OF α,α′-ANTHRAQUINONE DISULFONATES

Robert D. Donaldson, Nixon, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 27, 1958, Ser. No. 724,234
1 Claim. (Cl. 260—370)

In the process of preparing alkali metal salts of 1,8-anthraquinone disulfonic acid which comprises disulfonating anthraquinone in the presence of mercury as a catalyst, and separating the 1,5-isomer therefrom to yield a diluted disulfonation liquor containing substantially 1,8-anthraquinone disulfonic acid, the improvement which comprises removing substantially all of the mercury by treating the said disulfonation liquor with finely divided copper metal, heating the treated mixture to 70–80° C., filtering while hot to remove copper and copper-mercury,

treating the filtrate with aqueous alkali metal chloride, cooling the treated filtrate and again filtering to isolate the solid salt of 1,8-anthraquinone disulfonic acid followed by drying of the same.

2,999,870

PROCESS OF PREPARING 4-HYDROXY-3-KETO-4-ANDROSTENES

Bruno Camerino, Renato Modelli, and Bianca Patelli, all of Milan, Italy, assignors to Società Farmaceutici Italia, a corporation of Italy

No Drawing. Filed Feb. 28, 1961, Ser. No. 92,175
Claims priority, application Italy Mar. 1, 1960
10 Claims. (Cl. 260—397.4)

1. A process of preparing a 4-hydroxy-3-keto-4-androstene which comprises treating the corresponding 4,5-epoxy-3-keto-androstane, dissolved in an organic solvent, with an aqueous solution of a base taken from the group consisting of alkali metal hydroxides and quaternary ammonium hydroxides, at from 50° C. to 150° C.

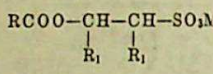
2,999,871

PROCESS OF IMPROVING THE ODOR OF SULFOALKYL ESTERS OF FATTY ACIDS

Leslie M. Schenck, Mountainside, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 1, 1959, Ser. No. 856,347
7 Claims. (Cl. 260—400)

1. The process of substantially eliminating the odor of phosphine present in sulfoalkyl esters of fatty acids having the following general formula



wherein R represents an alkyl radical of from 8 to 22 carbon atoms, R_1 represents a member selected from the class consisting of hydrogen, methyl and ethyl groups and M represents a metal selected from the group consisting of alkali and alkaline earth metal, which comprises treating the sulfoalkyl ester of fatty acid in substantially neutral form with hydrogen peroxide in a quantity ranging from 200 to 2,000 parts per million of said hydrogen peroxide.

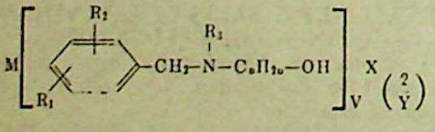
2,999,872

METAL SALT AMINOALCOHOL COMPLEXES

W E Craig, Philadelphia, and John O'N. Van Hook, Abington, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 6, 1958, Ser. No. 719,509
9 Claims. (Cl. 260—429)

1. A compound of the formula



wherein M is a divalent metallic ion selected from the group consisting of nickel, cobalt, cadmium, zinc and copper, R_1 is alkyl containing from four to eighteen carbon atoms, R_2 is selected from the group consisting of hydrogen and lower alkyl, R_3 is selected from the group consisting of hydrogen, lower alkyl and 2-hydroxyethyl, X is an anion selected from the group consisting of halide, sulfate, nitrate, phosphate, selenate, citrate, and lower alkanoate, *n* is an integer of from 2 to 3, Y is the valence of the anion X, and V is an integer of from 1 to 2.

2,999,873

PROCESS FOR THE PREPARATION OF ORGANIC ISOCYANATES

Albert Bloom, Summit, N.J., Harlan B. Freyermuth, Easton, Pa., and James B. Normington, Little Silver, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 9, 1956, Ser. No. 596,395
4 Claims. (Cl. 260—453)

1. The process of preparing aromatic isocyanates which comprises reacting a solution of phosgene in an inert solvent with a solution of an aromatic amino compound selected from the class consisting of organic mono- and poly-amines in the same inert solvent at atmospheric pressure and at a temperature of 100°–200° C. while passing phosgene through the solution mixture, removing the hydrogen halides from the reaction mixture and recovering the isocyanate, the said inert solvent comprising from 50 to 95% by weight of an aromatic petroleum solvent distilling at approximately 125°–225° C. and from 5–50% by weight of an oxygen bearing organic compound selected from the group consisting of dialkyl ethers of mono-, di- and tri-alkylene glycols.

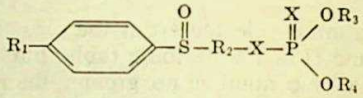
2,999,874

ESTERS OF PHOSPHORIC AND THIOPHOSPHORIC ACIDS CONTAINING SULFOXIDE GROUPS AND PROCESS FOR THEIR PRODUCTION

Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 23, 1957, Ser. No. 691,807
Claims priority, application Germany Dec. 1, 1956
5 Claims. (Cl. 260—461)

1. Thiophosphoric acid esters of the following formula



wherein R_1 stands for a member selected from the group consisting of a lower alkyl radical and a halogen atom, R_2 stands for a lower alkylene radical, X stands for a member selected from the group consisting of an oxygen and a sulfur atom, at least one X being sulfur, and R_3 and R_4 stand for lower alkyl radicals.

2,999,875

PREPARATION OF AMINO ACIDS

Arthur F. Ferris, Princeton, N.J., and Harold K. Latourette, Clarence, N.Y., assignors to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 21, 1957, Ser. No. 697,786
15 Claims. (Cl. 260—465.4)

12. The method of producing an omega-cyano carboxylic acid by cleaving a cyclic ketone having a 5 to 7 carbon ring with a group selected from the class consisting of oximino, amido, nitro, halogen, amino and amino derivatives on one position alpha to the carbonyl group and an oximino group on the other position alpha to the carbonyl group, comprising the step of reacting said cyclic ketone with an acylating agent in aqueous base, thereby cleaving the ring structure between the carbonyl carbon and the alpha-oximino carbon, to produce said omega-cyano carboxylic acid.

2,999,876

VAPOR PHASE SYNTHESIS OF ALLYL CYANIDE

Richard L. Roberts, Milton, and John W. Lynn, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 7, 1958, Ser. No. 719,727
4 Claims. (Cl. 260—465.9)

1. A process for the preparation of allyl cyanide which consists of contacting a mixture of hydrogen cyanide and

allyl chloride with a supported copper salt catalyst which is a member selected from the group consisting of copper sulfate on fused aluminum oxide, cuprous chloride on fused aluminum oxide and copper aluminum oxide, in the vapor phase at a temperature of 150° C.–300° C.

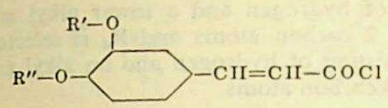
2,999,877

SYNTHESIS OF 1,4-DICAFFEYL-QUINIC ACID

Alberto Vercellone, Milan, and Luigi Panizzi, Rome, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed Dec. 27, 1955, Ser. No. 555,283
Claims priority, application Italy Dec. 28, 1954
6 Claims. (Cl. 260—473)

1. The process of synthesizing 1.4-dicaffeyl-quinic acid, which comprises condensing a caffeic acid derivative of the type



wherein R', R'' individually represent members of the group consisting of carbomethoxy, carboethoxy and carbobenzoxy, and jointly represent members of the group consisting of carbonyl and thionyl, with quinic acid and saponifying the condensation product with a 3% barium hydroxide solution at 0 to 30° C. in the absence of air.

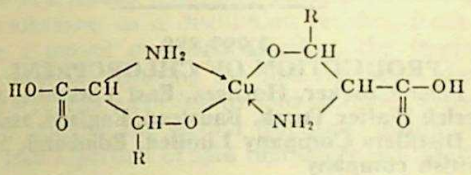
2,999,878

SYNTHESIS OF β-HYDROXY-α-AMINO ACID

Kenji Okawa, Yao City, Osaka, and Mikio Sato, Sumiyoshi-ku, Osaka, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan, a company of Japan

No Drawing. Filed June 5, 1957, Ser. No. 663,608
Claims priority, application Japan June 19, 1956
5 Claims. (Cl. 260—519)

1. A process for the synthesis of β-hydroxy-α-amino acid selected from the group consisting of serine, threonine and phenylserine comprising reacting an aldehyde selected from the group consisting of formaldehyde, acetaldehyde and benzaldehyde in an alkaline aqueous medium with copper salt of glycine to produce a chelated condensation product having the general formula



wherein R is a radical from the group consisting of hydrogen, methyl and benzene radicals and precipitating the copper from the condensation product to produce free amino acid.

2,999,879

PROCESS FOR THE PRODUCTION OF AROMATIC CARBOXYLIC ACIDS

Franz Broich, Ferdinand List, and Nikolaus Roh, Marl, Westphalia, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed May 31, 1955, Ser. No. 512,333
Claims priority, application Germany July 1, 1954
4 Claims. (Cl. 260—524)

1. Process for the production of a substituted mononuclear aromatic carboxylic acid from the corresponding substituted mononuclear aromatic compound having an aliphatic side chain with 1 to 2 carbon atoms, said compound being substituted in the aromatic nucleus by a member of the group consisting of halogen and nitro groups which comprises first partially oxidizing said compound with air and then treating the partially oxidized compound in an aqueous emulsion which contains an emulsifying agent at a temperature within the range from 75° to 85° C. with a water soluble hypochlorite in quantity corresponding at the most to the quantity theoretically required until the odor of the hypochlorite has disappeared and thereafter acidifying the emulsion to recover the aromatic carboxylic acid formed.

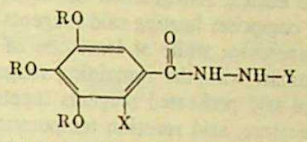
2,999,880

N-SUBSTITUTED-N'-BENZOYLHYDRAZINES

William B. Wheatley, Syracuse, and Harry L. Dickison, Fayetteville, N.Y., assignors, by mesne assignments, to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 20, 1958, Ser. No. 743,506
12 Claims. (Cl. 260—559)

1. A compound selected from the group consisting of a free base and the nontoxic acid addition salts thereof, said free base having the formula



wherein R is (lower) alkyl, X is a member selected from the group consisting of hydrogen, chloro and bromo and Y is a member selected from the group consisting of alkyl containing less than eleven carbon atoms, cyclopentyl, methylcyclopentyl, cyclohexyl, methylcyclohexyl, cyclohexylcyclohexyl, cyclohexenyl, methylcyclohexenyl, benzyl, hexahydrobenzyl, tetrahydrobenzyl, methoxybenzyl, hydroxybenzyl, hydroxymethoxybenzyl, dimethoxybenzyl, methylenedioxybenzyl and dihydroxybenzyl.

2,999,881

ACRYLAMIDE MONOMER POLYMERIZATION INHIBITOR

George C. Gleckler, Springdale, and George L. Sutherland, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 2, 1959, Ser. No. 796,201
8 Claims. (Cl. 260—561)

1. A method of inhibiting the polymerization of a solution of an amide selected from the group consisting of acrylamide and α-alkyl acrylamides which comprises incorporating therein the ferrous iron complex of N-nitrosophenylhydroxylamine as a polymerization inhibitor.

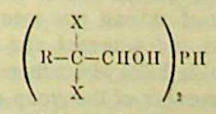
2,999,882

METHOD OF PREPARING SECONDARY PHOSPHINES

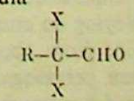
Sheldon A. Buckler, Stamford, Conn., and Lois Doll, Adams, Mass., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 31, 1959, Ser. No. 836,925
6 Claims. (Cl. 260—606.5)

1. A method of preparing a secondary phosphine having the formula



wherein X is selected from the group consisting of chlorine and fluorine and R is a member chosen from the group consisting of H, Cl, F, lower alkyl (C_1–C_4), and monohalo-substituted lower alkyl which comprises reacting, in the presence of an aqueous mineral acid, one mole of phosphine with two moles of an aldehyde conforming to the formula



wherein X and R have the meaning given above, and recovering the resulting secondary phosphine.

2,999,883

METHOD OF PRODUCING DIPHENYL SULPHONES

Cornelis Johannes Schoot, Eindhoven, and Johan Herman Van Rij, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 22, 1959, Ser. No. 828,735
Claims priority, application Netherlands July 25, 1958
12 Claims. (Cl. 260—607)

1. In the method of producing nuclear halogenated diphenylsulfones by the Friedel-Crafts condensation, in the presence of a condensation agent selected from the group consisting of aluminum chloride and ferric chloride, of a nuclear halogenated benzene sulfohalide and an aromatic compound selected from the group consisting of benzene and nuclear halogenated benzenes the improvement which comprises heating said reagents almost to the reaction temperature while at least one of said reagents is out of contact with the remaining reagents and then mixing all of said preheated reagents together at the reaction temperature, said reaction temperature being such that the condensation is completed within 20 minutes and being between about 80° C. and 160° C.

2,999,884

PROCESS FOR PREPARING A POLYFLUORO ALKANOL

Viktor Weinmayr, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 20, 1959, Ser. No. 814,386
6 Claims. (Cl. 260—633)

1. The process which comprises reacting about 0.5 mole of hexafluoropropylene with 1 mole formaldehyde and at least 2 moles of hydrogen fluoride at a temperature in the range of from 100° C. to 200° C. and a pressure in the range of from about 600 p.s.i.g. to about 2500 p.s.i.g., there being present not more than 1 port of water for each part of hydrogen fluoride, and separating from the reaction mass 1H,1H-2-(trifluoromethyl)-tetrafluoro-1-propanol.

2,999,885

PURIFICATION OF FLUOROCARBONS

Jack W. Heberling, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 17, 1959, Ser. No. 840,534
7 Claims. (Cl. 260—648)

1. The process for decreasing the impurities in a saturated fluorocarbon of 2 to 6 carbon atoms which consists of carbon and fluorine and in which the impurities consist essentially of at least one member of the group of perfluoroolefins and saturated and unsaturated halohydrocarbons which halohydrocarbons contain fluorine and at least one member of the group consisting of chlorine and hydrogen, which process comprises intimately contacting the impure saturated fluorocarbon with an aqueous solution of potassium permanganate in a concentration of from about 5% to about 40% by weight which contains from about 0.5 to about 2 parts by weight of an alkali metal hydroxide per part of potassium permanganate, at a temperature of from about 20° C. to about 95° C., employing an amount of the permanganate solution to provide from about 2 to about 6 parts by weight of potassium permanganate for each part of impurity in the saturated fluorocarbon, and separating the purified saturated fluorocarbon from the reaction mixture.

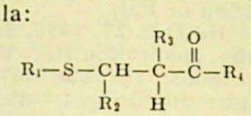
2,999,886

STABLE SOLVENT COMPOSITIONS

Clarence R. Crabb, Lake Jackson, and Harris G. Hughes and Leighton S. McDonald, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 13, 1959, Ser. No. 852,620
7 Claims. (Cl. 260—652.5)

1. A composition comprising a chlorinated hydrocarbon solvent and an amount, sufficient to improve the stability of said solvent, of a sulfur-containing compound having the formula:



wherein R_1, R_2, and R_3 are each selected from the class consisting of hydrogen and a lower alkyl group having from 1 to 2 carbon atoms and R_4 is selected from the group consisting of hydrogen and an alkyl group having from 1 to 5 carbon atoms.

2,999,887

PREPARATION OF A C_4H_3Cl COMPOUND FROM A SOLUTION OF COPPER CHLORIDE AND HYDROGEN CHLORIDE SATURATED WITH ACETYLENE

Joseph B. Finlay, Louisville, Ky., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 25, 1959, Ser. No. 835,830
2 Claims. (Cl. 260—654)

2. A process of preparing 2,3-dichloro-1,3-butadiene which comprises reacting, in the presence of cuprous chloride, hydrogen chloride with a chlorinated carbon compound having the empirical formula C_4H_3Cl, a boiling point of 55° C. at 760 mm. Hg pressure, a refractive index n_D^{20} of 1.4525, a density D_{20}^{20} of 0.9938, a density D_4^{20} of 0.9920, a mass spectograph cracking pattern which displays parent peaks at *m/e* 86 and 88 with the largest single peak being at *m/e* 51 and having an infrared spectrum characterized by strong absorption at 3.04, 4.72, 6.2 and 11.0 to 11.2μ wavelengths.

2,999,888

PRODUCTION OF CHLOROPRENE

Henry Peter Crocker, Hornsea, East Yorkshire, and Karl Heinrich Walter Turck, Banstead, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed June 23, 1959, Ser. No. 822,183
Claims priority, application Great Britain July 4, 1958
5 Claims. (Cl. 260—655)

1. The process for the production of chloroprene which comprises treating 3:4-dichlorbutene-1 with an aqueous alkali metal hydroxide solution at a temperature in the range of 70° to 130° C., and at a pressure sufficient to maintain the reaction mixture in the liquid phase, separating from the reaction mixture an oil phase containing chloroprene and unreacted dichlorbutene and distilling the oil phase to recover the chloroprene therefrom.

2,999,889

DIVINYLMAGNESIUM AND METHOD OF MAKING

Donald J. Foster, South Charleston, and Erich Tobler, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

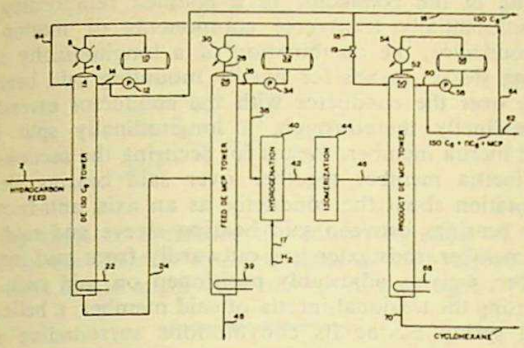
No Drawing. Filed Aug. 10, 1959, Ser. No. 832,463
4 Claims. (Cl. 260—665)

4. Process for making divinylmagnesium which comprises reacting magnesium with divinylmercury, the reaction being carried out in a solvent reaction medium, said solvent being an aliphatic ether containing from two to twelve carbon atoms.

2,999,890
PROCESS FOR ISOMERIZATION OF HYDROCARBONS

Joseph W. Davison, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 21, 1959, Ser. No. 860,764
13 Claims. (Cl. 260—666)



1. In a process in which a hydrocarbon stream comprising isohexanes, methylcyclopentane and normal hexane is fractionated in a first fractional distillation zone to separate a product rich in isohexanes from a stream containing normal hexane and methylcyclopentane which are subjected to isomerization conditions to form therefrom isohexanes and cyclohexane in an effluent stream, and said effluent stream is fractionated in a second fractional distillation zone to separate cyclohexane and produce an overhead fraction, the improvement which comprises refluxing the first fractional distillation zone with at least a portion of said overhead fraction from the second fractional distillation zone.

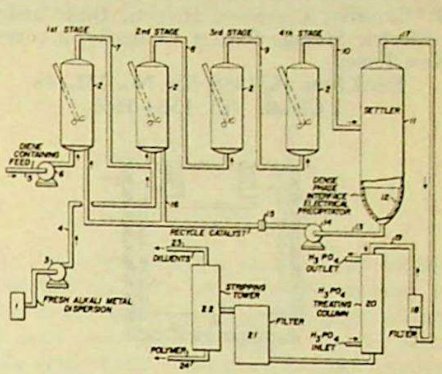
4. In a process in which a hydrocarbon stream comprising isohexanes, methylcyclopentane and normal hexane is fractionated in a first fractional distillation zone to separate as a first overhead fraction a product rich in isohexanes from a stream containing normal hexane and methylcyclopentane which are subjected to isomerization conditions to form therefrom isohexanes and cyclohexane in an effluent stream, and said effluent stream is fractionated in a second fractional distillation zone to separate cyclohexane, as a distillation residue, from isohexanes as a second overhead fraction, the improvement which comprises refluxing the first fractional distillation zone with at least a portion of said second overhead fraction, and refluxing the second fractional distillation zone with at least a portion of said first overhead fraction.

2,999,891
REMOVING ALKALI METAL CATALYSTS FROM POLYMERS

Anthony H. Gleason, Westfield, and Ober C. Slotterbeck, Rahway, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 23, 1957, Ser. No. 685,528
12 Claims. (Cl. 260—669)

5. A process for preparing a substantially alkali metal free liquid polymer solution which comprises polymerizing in a polymerization zone a reaction mixture containing monomers comprising about 80 to 100 weight percent of a C_4 to C_{10} conjugated diolefin and about 0 to 20 weight percent of a vinyl aromatic hydrocarbon in the presence of a finely divided alkali metal catalyst and an inert diluent, whereby a polymer-containing reaction mixture containing finely divided free alkali metal and insoluble alkali metal-containing compounds is formed, separating out about 0–100% of the free alkali metal and insoluble alkali metal-containing compounds from the reaction mixture and contacting the resulting mixture containing residual alkali metal and alkali metal compounds at a

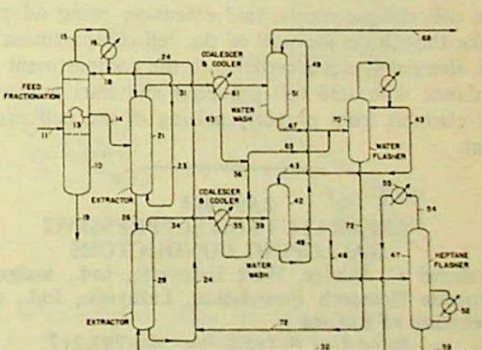


temperature level between about 20° and 80° C. with a composition consisting of about 200 to 2,000 weight percent based on total alkali metal of a phosphorus-containing compound selected from the group consisting of phosphoric acids, phosphoric anhydrides and mixtures thereof until substantially all of the alkali metal-containing compounds are converted to alkali metal phosphates, and filtering off said alkali metal phosphates.

2,999,892
SOLVENT EXTRACTION PROCESS

Michael N. Papadopoulos, Albany, and Carl H. Deal, Jr., Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware

Filed Sept. 2, 1958, Ser. No. 758,342
6 Claims. (Cl. 260—674)



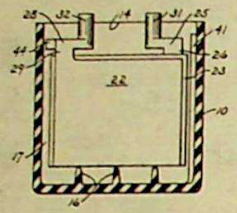
1. A process for recovering naphthalenes of at least a five carbon number spread from a hydrocarbon fraction containing alkyl benzenes of a like carbon number spread, the steps comprising subjecting said fraction to a liquid-liquid extraction with sulfolane solvent to obtain an extract-solvent phase rich in said naphthalenes and a raffinate phase rich in said alkyl benzenes, separating the extract-solvent phase from the raffinate and thereafter recovering the naphthalene extract from the sulfolane solvent.

ELECTRICAL

2,999,893
STORAGE BATTERY CONSTRUCTION

John P. Casserly, Cleveland Heights, Ohio, assignor to The Electric Storage Battery Company, a corporation of New Jersey

Filed June 16, 1958, Ser. No. 742,148
1 Claim. (Cl. 136—166)

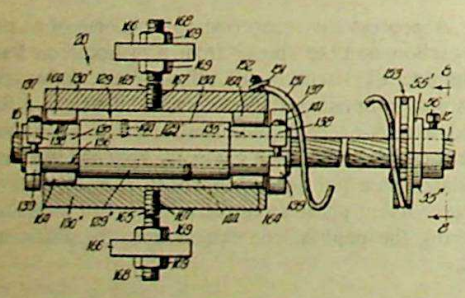


In combination, a storage battery casing having a plurality of cell compartments each adapted to receive a cell element comprising a group of positive plates connected together by means of a strap carrying a terminal post and a group of negative plates connected together by means of a strap carrying a terminal post, said cell elements being adapted to be oriented in their respective cell compartments in accordance with a predetermined grouping of the cells of the battery, a rib in each of said compartments, each of said ribs being on the wall of its respective compartments which, according to said grouping, is to be adjacent the terminal post of the same polarity on each of the respective cell elements, and an extension on the strap connecting together the plates of the opposite polarity on each of said cell elements, each of said ribs extending above the normal seating height of said extensions when said cell elements are properly oriented with respect to said cell grouping in their respective cell compartments, said extension being adapted to strike the rib on the wall of the cell compartment if the cell element is not inserted into the compartment in accordance with said cell grouping and thus prevent said cell element from properly seating in the cell compartment.

2,999,894
APPARATUS FOR SUPPRESSING GALLOPING CONDUCTORS

Raymond C. Binder, West Lafayette, Ind., assignor to Purdue Research Foundation, Lafayette, Ind., a corporation of Indiana

Filed Jan. 6, 1958, Ser. No. 707,217
10 Claims. (Cl. 174—42)

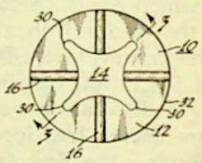


1. In apparatus of the class described for suppressing galloping oscillations in a suspended conductor, which galloping oscillations are characterized by substantially transverse components of motion having such large amplitudes and such low frequencies as to render such transverse components of motion readily visible, and which galloping oscillations are further characterized by torsional components of motion causing a twisting and untwisting of the conductor in a coupled relationship to the substantially transverse components of motion in the conductor, the combination of a longitudinally split bearing sleeve, means for fixedly mounting said bearing sleeve over the conductor with the conductor extending longitudinally therethrough, a longitudinally split torsional inertia member, means for securing the sections of said inertia member together over said bearing sleeve for rotation about the conductor as an axis, anti-friction roller bearings between said bearing sleeve and said inertia member, rods extending outwardly from said inertia member, weights adjustably positioned on said rods for increasing the torsional inertia of said member, a helically coiled spring having its convolutions surrounding said conductor, means for fastening one end of said spring to said inertia member, and clamping means for anchoring the other end of said spring to said conductor, whereby said spring is operative by winding and unwinding axially of the conductor to torsionally resist the rotation of said inertia member in opposite directions of rotation during galloping oscillations and whereby said spring returns said inertia member to a substantially normal angular position with respect to said bearing sleeve and conductor upon the cessation of said galloping oscillations.

2,999,895
SPACER FOR MOUNTING ELECTRICAL ELEMENTS ON SUPPORTS

Charles M. Smith, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 9, 1959, Ser. No. 851,822
2 Claims. (Cl. 174—138)



1. A spacer comprising a disk of insulating material, said disk being formed with a central, four-pointed, substantially symmetrical, star-shaped opening, said opening being defined by four arcuate-shaped sides, center points of opposite pairs of said arcuate-shaped sides being closer to each other than the respective ends of said opposite pairs of sides, and four radially disposed ribs extending outwardly from said disk and symmetrically spaced on said disk, each of said ribs extending between a separate one of said center points of said sides and the periphery of said disk.

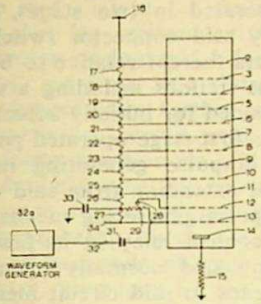
2,999,896
APPARATUS INCORPORATING A DICHROIC MIRROR

Stanley Frederick Quinn, Ashford, England, assignor to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain

Filed Nov. 13, 1956, Ser. No. 621,823
Claims priority, application Great Britain Nov. 16, 1955
14 Claims. (Cl. 178—5.4)

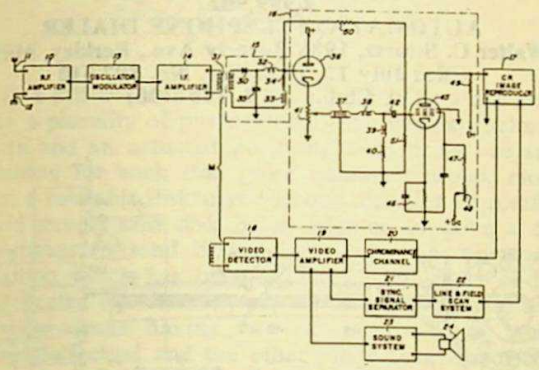
1. Apparatus incorporating a dichroic mirror on which light is incident with a varying angle of incidence, converting means for converting light from said mirror into electrical signals, and amplifying means for amplifying said electrical signals, in which the spectral characteristics of said mirror vary with said angle of incidence,

and said apparatus includes means for varying the gain of said amplifying means in a manner related to said



varying angle of incidence to reduce the effect of variations in the spectral characteristics of said mirror with variations in the angle of incidence of said light.

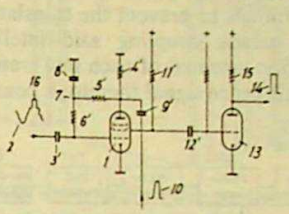
2,999,897
LUMINANCE AMPLIFIER
Charles H. Heuer, Glencoe, and John L. Rennick, Elmwood Park, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware
Filed May 28, 1958, Ser. No. 738,372
6 Claims. (Cl. 178—5.4)



1. A luminance channel for a color television receiver having a chrominance channel which introduces a time delay of a predetermined amount in the translation of chrominance information, said luminance channel comprising: video detector means for developing luminance signal energy; a cathode follower coupled to said detector means and having a load impedance comprising a time-delay network exhibiting a time delay of substantially said predetermined amount; a video amplifier; means, including an A.C. coupling impedance, for coupling said time-delay network to said amplifier to apply a luminance signal thereto; and D.C. connecting means between said video detector means and said video amplifier, having a transmission to A.C. components of said luminance signal substantially less than that of said means coupling said network to said amplifier, for restoring at said amplifier at least part of the direct-current component of said luminance signal.

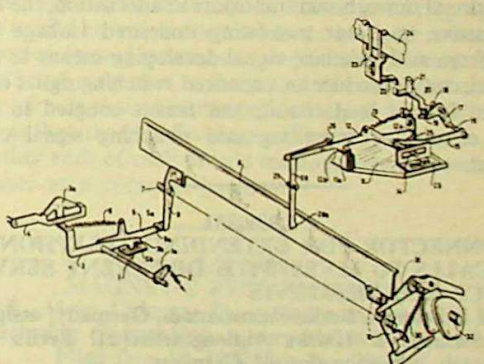
2,999,898
PULSE AND NOISE SEPARATORS
Alfred Pollak, Hannover, Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed Jan. 22, 1960, Ser. No. 4,054
Claims priority, application Germany Jan. 23, 1959
7 Claims. (Cl. 178—7.3)

1. A separator circuit for separating signal components exceeding a preselected modulation level from a combination signal including intelligence signals and synchronizing pulses at different modulation levels, the pulses serving to synchronize a local oscillator, said separator comprising a tube having electrodes including an anode, a cathode, a control grid means for applying said combination signals to said control grid, and a screen grid; a source of supply potential; a separator circuit output load resistor connected between said screen grid and the source; a feedback resistance chain connected between the control grid and ground and having a tap therebetween con-



nected to the anode; coupling means connected between the anode and said local oscillator for applying a positive pulse to the anode and the control grid corresponding with each cycle of the oscillator, whereby each positive pulse renders the tube conductive and establishes a rectified negative bias on the control grid, said bias being determined by the amplitude of the positive pulses and the values of said resistance chain and the bias level being adjusted to said preselected modulations level.

2,999,899
TELEPRINTER MACHINE COMPRISING A DEVICE FOR VARIABLY SETTING THE RIBBON STROKE
Herbert Wüsteney and Rudolf Rekewitz, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed May 20, 1958, Ser. No. 736,514
Claims priority, application Germany May 31, 1957
8 Claims. (Cl. 178—23)

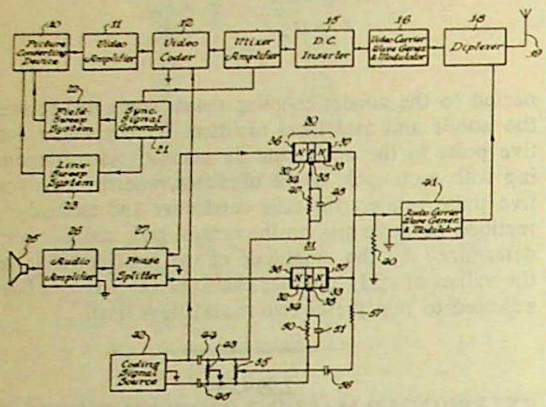


1. A teleprinter machine including ribbon actuating means having a variable stroke having a first auxiliary device for selectively variably setting the ribbon stroke and a second auxiliary device for controlling station identification means, said auxiliary devices being respectively differently operatively affected incident to transmitting and receiving said first device including an element for governing the variable setting of the ribbon stroke, said second device including interlock means, and means operable by said interlock means for operatively affecting the actuation of said element for governing the variable setting of the ribbon stroke.

2,999,900
SIGNAL TRANSLATING APPARATUS
Adrian J. De Vries, Yorkfield Township, Du Page County, and Walter S. Druz, Bensenville, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware
Filed May 27, 1957, Ser. No. 661,804
14 Claims. (Cl. 179—1.5)

1. Signal-translating apparatus comprising: a source of intelligence signal; a pair of bi-directional transistors each

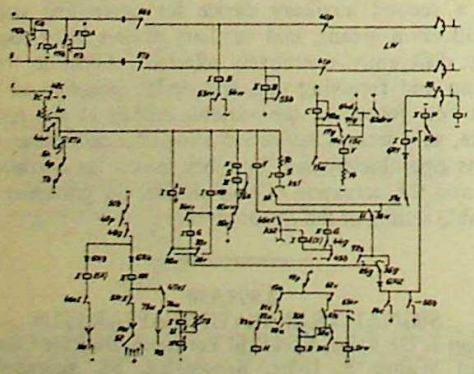
having first, second and third terminals and responsive to one voltage condition on said third terminal for assuming a conductive state wherein a relatively low impedance path is provided between its first and second terminals to permit bi-directional current translation therebetween and responsive to another voltage condition on said third terminal for assuming a non-conductive state wherein a relatively high impedance path is provided between its first and second terminals to prevent the translation of current therebetween; means coupling said intelligence signal source to said first terminal of each said transistors for applying said intelligence signal thereto; a common load circuit; means coupling both said second terminals to said load circuit; means for developing an alternating switching signal; means for applying said switching signal to said third terminal of each of said transistors to condition said transistors to their respective conductive states in alternation thereby to translate said intelligence signal to said load circuit through said transistors in alternation, the non-conductive transistor translating undesired leakage current from said switching-signal-developing means to said load circuit to produce an undesired switching signal component in said load circuit; and means coupled to said load circuit for cancelling said switching signal component.



2,999,901
CONNECTOR FOR EXTENDING TELEPHONE CALLS TO LINES WITH DIFFERENT SERVICE REQUIREMENTS

Alfred Scheunert, Berlin-Siemensstadt, Germany, assignor to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed June 21, 1956, Ser. No. 592,788
Claims priority, application Germany June 30, 1955
4 Claims. (Cl. 179—17)

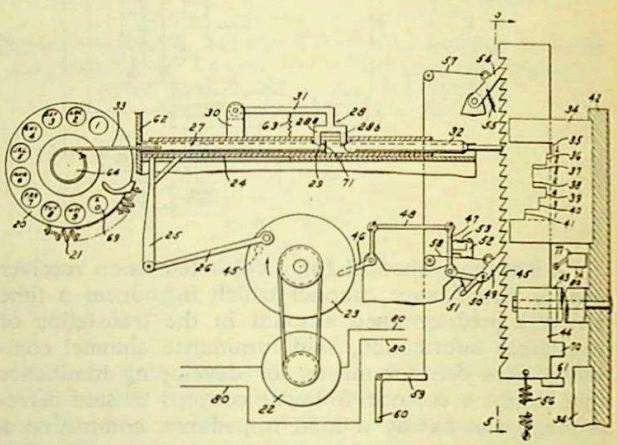


1. A connector switch for respectively extending telephone calls to individual lines and to private branch exchange trunk groups and to party lines, having predetermined ringing codes respectively assigned thereto, comprising a device for securing the transmission of full ringing codes to party line stations to which calls are to be extended, said device comprising a control relay adapted to be operated in two stages, control contact means actuated by said connector switch responsive to setting of the wipers thereof relative to bank contacts allotted to party line stations including a station to which a call is to be extended for initially actuating said control relay to assume its first-stage operated position, a ringing relay, code ring impulse generating means, normally open circuit means extending from said control relay to said code ring impulse generating means, contact means actuated by said control relay in its first-stage operated position for closing said normally open circuit means, further contact means in said circuit means for connecting said generating means to said control relay so as to cause actuation thereof to assume its second-stage operated position, and contact means actuated by said control relay in its second-stage operated position for connecting said ringing relay with said code ring impulse generating means at the start of transmission thereby of the code ring impulse series allotted to the called party line station to operate said ringing relay accordingly, and circuit means controlled by said ringing relay for transmitting to the called party line station ringing current in accordance with said code ring impulse series.

2,999,902
AUTOMATIC TELEPHONE DIALER

Walter C. Swartz, 1985 Beverly Ave., Berkley, Mich.

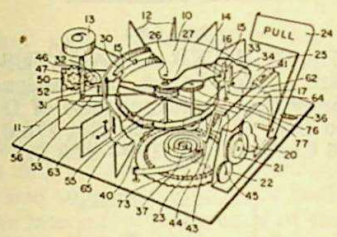
Filed July 12, 1956, Ser. No. 597,510
1 Claim. (Cl. 179—90)



An automatic dialing apparatus for dial telephones comprising a bi-directionally reciprocating member adapted to be disposed between a dial telephone and a mechanism having a multiple face stop, a slide plunger slidably disposed on said reciprocating member at the dial end thereof having an inner end equipped with a ratchet tooth and an outer end, connecting means connected to said slide plunger outer end adapted to angularly move a telephone dial when said slide plunger is moved by said reciprocatnig member, a cam plunger slidably disposed in said reciprocating member at the stop end thereof adjacent said multiple face stop having an extending end adapted to engage said stop and an interal end having a cam surface; said multiple face stop being located adjacent to the extending stop end of said reciprocating member to abut said cam plunger extending end at various certain points of travel of said reciprocating member; a bifurcated tang moveably mounted on said reciprocating member for travel therewith having a pull leg and a cam leg equipped with opposed inclined surfaces; said tang pull leg inclined surface by-passing said slide plunger and tooth in a non-dialing direction of

reciprocating member travel; said pull leg engaging said tooth in the dialing angular movement direction of reciprocating member travel to cause said slide plunger to angularly move said dial in the dialing direction; said bifurcated tang cam leg inclined surface when engaged by said cam plunger raising said biforcated tang to disconnect said pull leg from said slide plunger tooth to free said slide plunger from further travel with said reciprocating member to permit said slide plunger to travel in the opposite direction via said connecting means when the dial angularly reversely moves under power of its own spring upon release of said slide plunger; said multiple stop faces being distance-wise coordinated to limit the travel of said slide plunger at a point coordinated with angular movement of the dial and the digit desired to be dialed on the telephone.

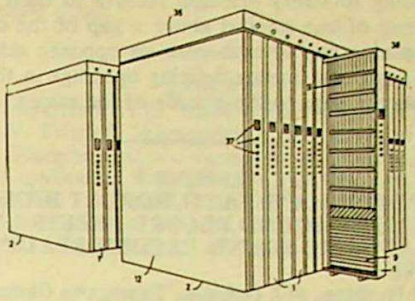
2,999,903
CALL TRANSMITTING DEVICES
Reynold Henatsch, 300 E. 61st St., New York, N.Y.
Filed Nov. 7, 1957, Ser. No. 694,979
5 Claims. (Cl. 179—90)



1. In a call transmitting system for driving a dial pulse means, a plurality of pushbuttons, each having a released position and an actuated position, there being one such pushbutton for each dial pulse character group, motor means, a rotatable disk urged in one direction of rotation by said motor, said disk being adapted to drive a dial pulse means to send dial pulses corresponding to the pushbutton which has been actuated, a plurality of trip means located equidistantly on the periphery of said disk, each trip means having two positions one of which renders it effectual and the other ineffectual, means coupling said plurality of pushbuttons to said plurality of trip means to render a selected trip means effectual, actuating means at a fixed point adjacent to the path of said trip means for intercepting said trip means in its effectual position, brake means for stopping the rotation of said disk, means coupling said actuating means to said brake means for stopping said disk when said effectual trip means reaches said fixed point, and starting means responsive to actuation of any pushbutton for releasing said brake means.

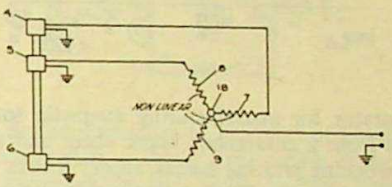
2,999,904
TELEPHONE INSTALLATION BAY STRUCTURE WITH SLIDING SWITCH FRAMES
Willy Lohs, Friedrich Sommer, and Günter Thom, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Dec. 10, 1958, Ser. No. 779,456
Claims priority, application Germany Dec. 20, 1957
17 Claims. (Cl. 179—91)

1. An automatic telephone exchange installation having a plurality of switch bays, each switch bay having a plurality of sliding frames, each frame containing switching means, the shape of each frame corresponding generally to that of a long rectangle with relatively narrow edges, said frames being arranged in the respective bays in upright position side by side and individually slidable for edgewise insertion into and withdrawal from the corresponding bays, connection cable means for each bay, said bays being disposed in spaced relation to form service passages therebetween the width of which is determined by said connection cable means and to delimit a peripheral passage extending about all said bays, the number of bays being such that the length of said service passages delimited by



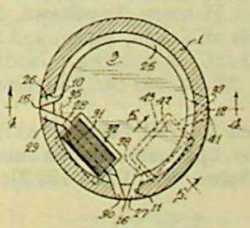
said bays exceeds the length of the section of said peripheral passage extending perpendicularly to said service passages.

2,999,905
NOISE ELIMINATOR
Paul J. Malinaric, Allegheny County, Pa. (2539 Homehurst Ave., Pittsburgh 34, Pa.)
Filed Jan. 9, 1958, Ser. No. 707,977
10 Claims. (Cl. 179—100.1)



1. A first record transcription means producing electric signals from a first record, a second record transcription means producing electric signals from a second record and a third record transcription means producing signals from a third record, current limiting non-linear resistances connected to said means, one end of each of said resistances being connected to the output of one of said means, the minimum desirable transcription signal potential being not less than the cut off voltage of the said resistances, and the other ends of each of said resistances being connected together at a common junction.

2,999,906
MAGNETIC RECORDER HEAD
Jack L. Metz, Chicago, Ill., assignor to Warwick Manufacturing Corporation, a corporation of Delaware
Filed Dec. 19, 1957, Ser. No. 703,864
8 Claims. (Cl. 179—100.2)



1. A unitary magnetic recorder head comprising, a casing including a pair of members each having an internal cavity and an annular rim with one member inverted and positioned above the other, a spacer disposed between said members, a first core positioned within the casing at one side of the spacer having a generally C-shaped first part with pole pieces at its ends and a second part substantially bridging the ends of the first part with a gap having pole pieces formed between the adjacent ends of the parts, a coil around one of said first core parts, a second core positioned within the casing on the other side of the spacer having a generally C-shaped first part with pole pieces at its ends and a second part substantially

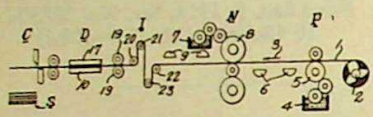
bridging the ends of the first part with a gap having pole pieces formed between the adjacent ends of the parts, a second coil around one of said second core parts, the two cores being rotatably oriented relative to each other to have a gap of one stacked above a gap of the other and the remaining gap of each core on opposite sides of the stacked gaps, and means defining openings in the casing to expose the gaps to the outside of the casing.

2,999,907

SYSTEM FOR MANUFACTURING AT HIGH SPEED MAGNETIC SOUND RECORD SHEETS USED ON A MAGNETIC SOUND RECORD READING MACHINE

Yasushi Hoshino, 462 1-chome, Tamagawa Okusawa-cho, Setagaya-ku, and Mamoru Namikawa, 664 Kugahara-cho, Ota-ku, both of Tokyo, Japan, and Shigezo Tochihara, Kawasaki-shi, Kanagawa, Japan (531 Matsunoki-Jyutaku, Matsunoki-cho, Suginami-ku, Tokyo, Japan)

Filed Aug. 28, 1958, Ser. No. 757,876
Claims priority, application Japan Sept. 2, 1957
6 Claims. (Cl. 179—100.2)



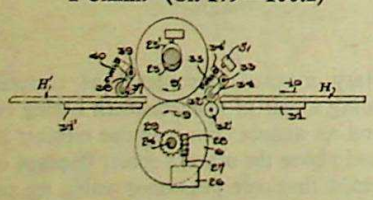
1. Apparatus for manufacturing magnetic sound record sheets from a continuous blank sheet and a master record comprising printing means, supply means for continuously supplying the blank sheet to said printing means; coating means adjacent said printing means for applying a magnetic film to said sheet, drying means adjacent said printing and coating means to dry said sheet, converting means operatively associated with said drying means for converting the movement of said sheet from a continuous to an intermittent movement, copy means for transferring information from said master record to said magnetic film, punch means for punching guide holes into said sheet, and cutting means for cutting the sheet into predetermined lengths.

2,999,908

DEVICE FOR HOLDING A MASTER MAGNETIC RECORD SHEET AND A MAGNETIC RECORD SHEET TO BE PRINTED IN A CORRECT OVERLAPPING RELATIONSHIP IN PRINTING OPERATION

Yasushi Hoshino, 462 1-chome, Tamagawa Okusawa-cho, Setagaya-ku, and Mamoru Namikawa, 664 Kugahara-cho, Ota-ku, both of Tokyo, Japan, and Shigezo Tochihara, Kawasaki-shi, Kanagawa, Japan (531 Matsunoki-Jyutaku, Matsunoki-cho, Suginami-ku, Tokyo, Japan)

Filed June 2, 1959, Ser. No. 817,557
Claims priority, application Japan June 3, 1958
1 Claim. (Cl. 179—100.2)



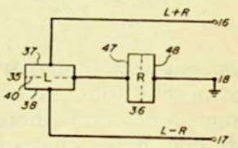
An apparatus for printing a printed magnetic sound record sheet from a master magnetic sound record sheet by applying a magnetic field, comprising a pair of main rollers, an electro-magnet in said rollers, a pair of holding plates between which a master sheet and a print sheet are held in correct overlapping relationship, an auxiliary pair of rollers operatively disposed with respect to and adapted to press the holding plates and located on one side of the two main rollers, a roller on the other side of said two main rollers and adapted to press the holding plates after the same have passed between said main rollers, a device for forwarding the holding plates with a master sheet and a print sheet therebetween, a motor coupled to and rotating one of the main rollers, a switch coupled to and controlling the rotation of the motor, another switch for controlling the rotation of the motor, a switch for energizing the electro-magnets in the main rollers, and a system which operates the first switch for controlling the rotation of the motor when the holding plates reach the auxiliary pair of rollers to rotate the main roller, operates the second switch for controlling the rotation of the motor and the switch for energizing the electro-magnets to establish a magnetic field between the main rollers when the holding plates enter between the two main rollers, and then cuts off the first switch when the tail end of the holding plates passes the auxiliary rollers and the second switch and the switch for energizing the electro-magnets when the tail end of the holding plates has passed between the main rollers.

2,999,909

TRANSDUCER APPARATUS

Cosler D. Knight, Lake Zurich, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware

Filed Dec. 3, 1958, Ser. No. 778,017
4 Claims. (Cl. 179—100.41)



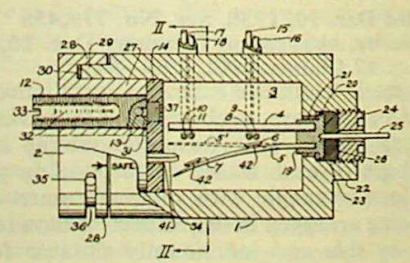
1. A stereophonic pickup and matrixing arrangement comprising: a first transducer assembly comprising a body of piezoelectric material, a pair of signal-translating electrodes affixed to different surfaces of said body, a pair of output terminals connected to said electrodes respectively, and a common electrode disposed on another surface and constituting with each of said signal-translating electrodes a transducing element; a second transducer assembly comprising a body of piezoelectric material and a pair of signal-translating electrodes affixed to different surfaces thereof; means for coupling said common electrode to one of the signal-translating electrodes of said second transducer assembly and a third output terminal connected to one of said electrodes of said second assembly.

2,999,910

TIMING DEVICE

Robert A. Cooley, East Alton, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed May 26, 1953, Ser. No. 357,529
11 Claims. (Cl. 200—52)



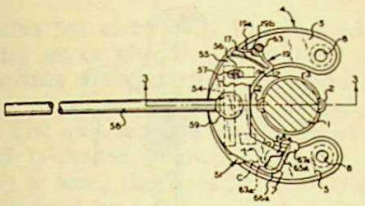
6. A timing device comprising electrodes, electrostatically chargeable repellable members, charging means,

and means for electrically connecting said electrodes upon movement of one of said members resulting from diminution of the charge.

2,999,911
DIRECTION SIGNALING APPARATUS

Peter J. Dryer, Boyne City, and Douglas C. Harding, Ann Arbor, Mich.; said Dryer assignor to Boyne Products, Inc., Boyne City, Mich., a corporation of Michigan, and said Harding assignor to Don R. Ford Associates, Inc., Detroit, Mich., a corporation of Michigan

Filed Mar. 4, 1959, Ser. No. 797,266
9 Claims. (Cl. 200—61.34)

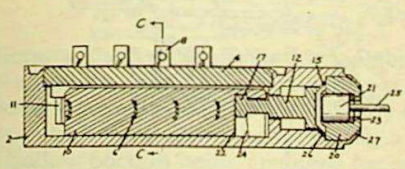


1. Direction signaling apparatus for use with cam means movable in an orbital path, said apparatus comprising a support member; a molded, unitary actuating member having a body portion terminating at its ends in integral, flexible fingers adapted to project toward the path of said cam means; means mounting said actuating member on said support member for rocking movements about an axis intermediate the ends of said body portion from a neutral position to operating positions on opposite sides of said neutral positions; switch means; switch operating means integrally formed on said actuating member on opposite sides of said axis and connected to said switch means for operating said switch means in response to rocking of said actuating member; and means connected to said actuating member for rocking the latter from said neutral position to either of said operating positions.

2,999,912
SWITCH

George F. Kincaid, Bradley C. Douglas, and Benjamin A. Gay, St. Louis, Mo., assignors to Atlas Powder Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 13, 1957, Ser. No. 696,074
5 Claims. (Cl. 200—82)

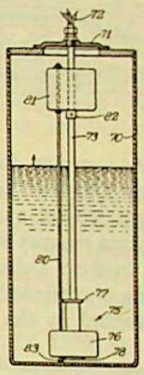


1. A switch comprising in combination a switch housing, at least one electrical contact member attached to said housing, a rigid movable nonconducting slide member carrying a second electrical contact member, said slide member mounted in said housing for longitudinal movement and so shaped in relation to said housing that lateral movement in any direction within the housing and rotational movement within the housing is prevented, by means of rigid, contacting, bearing surfaces between said slide member and said housing and independent of said electrical contacts, said slide member being adapted for longitudinal movement within said housing to two positions, at one position said first electrical contact member and said second electrical contact member being operatively engaged and in the other position said first electrical contact member being disengaged from operative contact with said second electrical contact member, means for rigidly holding said slide member in one of said positions, and means for moving said slide member longitudinally within said housing from one of said positions to the other position which comprises a piston and an explosive squib.

2,999,913
LIQUID LEVEL RESPONSIVE DEVICE

Morley V. Friedell, Wheatridge, Colo., assignor to C. A. Norgren Co., a corporation of Colorado

Original application Sept. 19, 1956, Ser. No. 610,773, now Patent No. 2,915,605, dated Dec. 1, 1959. Divided and this application July 27, 1959, Ser. No. 829,858
3 Claims. (Cl. 200—84)



1. A device responsive to the level of liquid in a container comprising, a liquid tight casing in the container to be immersed in the liquid, a first float movably mounted on the exterior of the casing, a sleeve of magnetic material surrounding the casing and carried by the float, an electrical switch within the casing, a switch operating element within the casing and movable to operate the switch, a permanent magnet within the casing and carrying the switch operating element, said magnet being vertically movable from a first position at one elevation to a second position at a higher elevation, a stop on the casing positioned to support the float in a position wherein the sleeve is located to exert sufficient magnetic attraction on the magnet to raise the magnet to said second position, said float having sufficient buoyancy to support itself and the sleeve in the liquid, but insufficient buoyancy to overcome said magnetic attraction, and a second float in the container above the first float and secured thereto, said floats having sufficient buoyancy in the aggregate with rising liquid level to overcome said attraction and raise the sleeve away from the magnet, said magnet being constantly biased by gravity toward said first position and movable across the space intervening between said first and second positions by said gravity bias in a single, rapid, continuous movement upon decrease in the magnetic attractive force to a value below the force of said gravity bias, said first float having sufficient buoyancy to support the sleeve, in raised position when the liquid level falls below the second float.

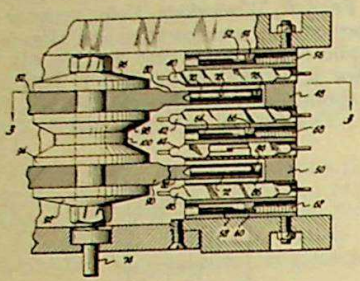
2,999,914
MAGNETIC SWITCH

Robert Edward Stanaway, Pasadena, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

Filed Dec. 23, 1957, Ser. No. 704,557
5 Claims. (Cl. 200—87)

3. A commutator switch device including a plurality of magnetic switches each mechanically biased to one of two positions, one magnet for each magnetic switch placed in a critical region for applying a holding magnetic field to said switches, first and second magnets displaced from one another and movably mounted to move past each of

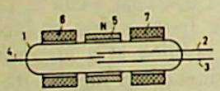
said magnetic switches, said first magnet serving to apply a magnetic field which aids the holding magnetic field to operate each switch to a second position against the mechanical bias, said holding magnetic field serving to hold each magnetic switch in the second position when the magnetic field of the first magnet is removed, said displacement between the first and second magnets being sufficiently great to provide a region therebetween which is substantially free of any magnetic field from either magnet, said second magnet having a magnetic field poled opposite to that of the first magnet and serving to oppose the holding magnetic field to reduce the net magnetic field of each switch when applied thereto whereby each magnetic switch is returned to the one position by its mechanical bias.



2,999,915
POLARIZED CHANGE-OVER CONTACT DEVICE

Friedrich Pfleiderer and Otto Adam Thiéle, Munich-Solln, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed Nov. 7, 1957, Ser. No. 694,972
Claims priority, application Germany Dec. 21, 1956
11 Claims. (Cl. 200—93)



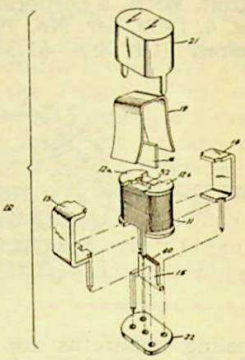
1. A polarized protective tubing change-over contact arrangement comprising an inner change-over contact spring made of magnetizable material and two outer contact springs also made of magnetizable material, said outer springs cooperatively disposed relative to said inner contact spring and forming air gaps therewith, said change-over spring being movable in a path for selective contacting engagement with said outer contact springs, and a single permanent magnet having opposite poles bracketing both of said outer contact springs, the field of said permanent magnet extending across said air gaps of said contact springs substantially transverse thereof in a plane defined by the motion of a line disposed axially on said change-over contact spring.

2,999,916
MINIATURE RELAY

Clarence Huetten, Howard R. Reeve, and Charles R. Reuter, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Sept. 11, 1959, Ser. No. 839,400
4 Claims. (Cl. 200—93)

1. A relay comprising, in combination, an insulative coil form having an axial passage therethrough and winding of wire therearound, a pair of ferromagnetic plates extending in opposite directions from said passage, one of said plates being fixed in and substantially filling out to portion of the length of said passage and to other of said plates having its inner edge mounted for rocking displacement on the inner edge of the first plate and constitutes the armature of the relay, a C-shaped permanent magnet member and a C-shaped ferromagnetic member faced into each around said coil form and defining air gaps between their ends at the respective ends of said passage, the ends of said C-shaped members at the outer end of said armature constituting stationary contact means selectively engageable with said end of the armature when said windings are energized and de-energized, respectively, a terminal pin secured to each end of said windings, to each of said C-shaped members and to said

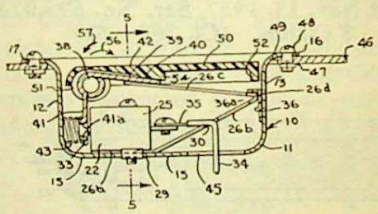


fixed ferromagnetic plate constituting mechanical mounting and electrical connection therefor, an insulative base plate having apertures therein through which said terminal pins may extend for connection to external energizing and work circuits, a casing slipped over said C-shaped members and said base plate and constituting with said base plate a sealed enclosure for the relay, and resilient elements interposed between the inner surface of said casing and said C-shaped members to maintain all of said elements in assembled relation.

2,999,917
MACHINE CONTROL SWITCH

Virgil R. Carpenter, St. Paul, Minn., assignor to The Unipress Company, Minneapolis, Minn., a corporation of Minnesota

Filed Feb. 20, 1959, Ser. No. 794,717
7 Claims. (Cl. 200—153)

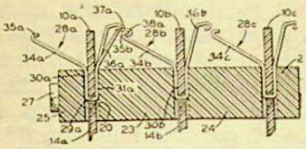


1. A machine control switch comprising an open end housing, a cover mounted for limited movement in the open end of said housing, a micro switch mountable in said housing, said micro switch including at least two terminals and a push button to selectively change the electrical relationship between said terminals, an insulating member, and means for independently removably retaining the micro switch in said housing and removably retaining the insulating member in said housing, said insulating member retained in the housing in position for being selectively interposed between the cover and the terminals, said means retaining the micro switch in said housing including a pair of tinnermans for separately retaining the insulating member in the housing, said housing having an elongated aperture through which the tinnermans are extended, and a pair of bolts for removably attaching the micro switch to the tinnermans, one bolt being connected to each tinnerman.

2,999,918
ELECTRICAL CIRCUIT CONNECTOR APPARATUS

Orville B. Shafer, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 26, 1957, Ser. No. 705,459
6 Claims. (Cl. 200—166)

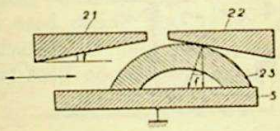


1. Apparatus for electrically interconnecting the electrical circuitry on a plurality of separate spaced apart circuit supporting members, said apparatus comprising a plurality of resilient generally U-shaped members mounted on first and second circuit supporting members, each of said U-shaped members having a pair of legs connected by a base, the bases of said U-shaped members being received by apertures in said first and second circuit supporting members so as to be connected to the electrical circuitry thereon, the legs of each U-shaped members extending along opposite sides of the circuit supporting member upon which it is mounted from the said base and then diagonally outwardly away from said opposite sides, and turned-in portions on the free ends of each of said legs, one of the legs on said first circuit supporting member being adapted to be latched to one of the legs on said second supporting member by way of the turned-in portions on the free ends thereof.

2,999,919
VIBRATOR DEVICES

Emile Torcheux and Etienne Honore, Paris, France, assignors to Societe Marocaine de Recherches, d'Etudes et de Developpements "Somarede," a corporation of Morocco

Filed May 8, 1959, Ser. No. 811,833
Claims priority, application France May 10, 1958
2 Claims. (Cl. 200—166)



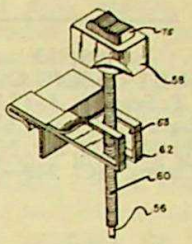
1. A vibrator device comprising in combination: two stationary armatures having respective planar contact surfaces; a hollow cylinder portion bounded by a plane parallel to its axis; a conductive body having a planar surface, said hollow portion being arranged for effecting over said planar surface a reciprocating motion of a predetermined direction for periodically and alternately engaging said planar contact surfaces, said contact surfaces forming with said direction an angle substantially equal to the angle of friction between said cylinder portion and said armatures; and means for guiding said motion of said cylinder portion.

2,999,920
REVERSIBLE GEARED HEAD ELECTRIC MOTOR AND CONTROL SYSTEM THEREFOR

Steffen S. Brown, Dayton, Ohio, assignor to The Brown-Brockmeyer Company, Dayton, Ohio, a corporation of Ohio

Filed July 15, 1957, Ser. No. 672,057
2 Claims. (Cl. 200—168)

1. A switch arrangement especially adapted for use with a reversible electric motor having a relay controlled low voltage control system which comprises; a manually operable switch having an operating element on one side, a cable leading from the other side of the switch, a resilient support member attached to the said other side of the switch and extending along and enclosing said cable,

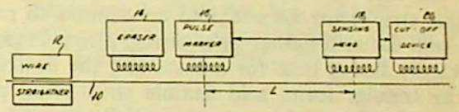


and a spring clip adapted for detachably receiving and supporting said supporting element, said spring clip being slotted so that the supporting element can be removed therefrom and placed in adjusted position therealong.

2,999,921
ELECTRONICALLY CONTROLLED WORKING PROCESSES

Ariel I. Stiebel, Detroit, Mich., assignor to Rockwell-Standard Corporation, Coraopolis, Pa., a corporation of Pennsylvania

Filed Sept. 10, 1958, Ser. No. 760,169
9 Claims. (Cl. 219—7.5)

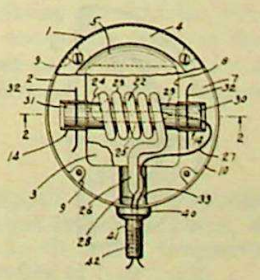


1. A method of controlling predetermined processes including a cutting operation on work pieces in a machine controlled work piece processing system comprising providing selectively magnetized portions on a de-magnetized magnetizable work piece which are in the processing system to serve as control signals for processing said work piece, sensing said magnetized portions on the work piece at stations adapted to perform process operations on said work piece, and controlling the process at the station where the magnetized portions are sensed by the nature of the control signals in said magnetized portions.

2,999,922
NEON FLASH LIGHT ASSEMBLY

Alfred T. Schmidt, 5547 Vineland, North Hollywood, Calif.

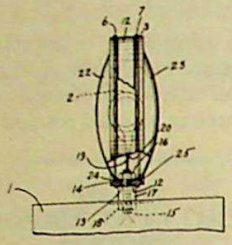
Filed July 20, 1959, Ser. No. 828,371
5 Claims. (Cl. 240—11.4)



1. In a device of the character disclosed, a casing having a circular side wall, a web secured to and within the confines of said side wall, diametrically disposed channel members secured to said web in substantial alignment, a transparent tube provided with half round ends, the half round ends being confined in the aligned channels of said channel members, and a helical neon tube surrounding the transparent tube between the half around ends thereof

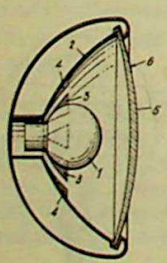
for supporting said helical neon tube, said channel members being formed to detachably receive spring wires adapted to overlie the half round portions of the transparent tube for holding the half around portions within said channel members.

2,999,923
FLASHER LIGHT CASING CONSTRUCTION
Alfred T. Schmidt, 5547 Vineland, North Hollywood, Calif.
Filed July 20, 1959, Ser. No. 828,372
3 Claims. (Cl. 240—11.4)



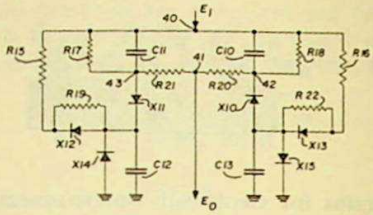
1. In flasher light casing construction, an elongated flexible strip of substantially isosceles trapezoidal cross-section, providing two bases of different dimension joined by legs, the base of greater dimension facing outwardly and the base of lesser dimension facing inwardly, said flexible strip being formed into an annulus to provide a side wall for said flasher light casing, a ring engaging the outwardly facing base for maintaining the flexible member in annular form, said flexible strip being provided with a pair of spaced apart substantially parallel annular grooves on the base of lesser dimension, and the legs of said strip forming flared end walls leading from the outer base to the inner base and said annular grooves, lenses having a diameter substantially equal to the diameter of the annular grooves, the lenses being adapted to have press fit engagement with the flared end walls to expand the said strip for reception of the edges of said lenses within the annular grooves, and a neon tube confined within the flasher light casing and provided with electrodes passed externally of the casing.

2,999,924
ANTI-FOG LIGHTING PROJECTOR
Félix Mottier and Edouard Mottier, Chamby-sur-Montreux, Switzerland
Filed Sept. 3, 1958, Ser. No. 758,843
Claims priority, application Switzerland Sept. 10, 1957
9 Claims. (Cl. 240—41.35)



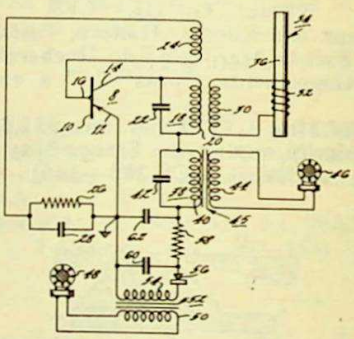
1. An anti-fog lighting projector comprising a source of light rays, a reflector member defining a cavity around the source, said cavity having an opening for the outward passage of light from said source, reflecting coloured areas disposed on the surface of the reflector member around the source, and a reflecting crown secured to said reflector member and disposed on the periphery of said opening in order to reflect the divergent rays inside the reflector.

2,999,925
VARIABLE DECISION THRESHOLD COMPUTER
Elmer Thomas, Adelphi, Md., assignor to Page Communications Engineers, Inc., Washington, D.C., a corporation of Delaware
Filed Jan. 28, 1959, Ser. No. 789,638
13 Claims. (Cl. 250—8)



1. In an apparatus for reducing the error effect of fading of carrier type keying signals, the combination comprising means for receiving discrete binary signals, means for separating sequentially received signals of different type in distinct circuits, means for storing said different signals separately in said circuits, means for comparing each last received stored signal of one type to the current input signal of the other type to establish a first decision threshold, and means for erasing said stored signals upon receipt of a prolonged input signal of one type to establish a second decision threshold.

2,999,926
SEMI-CONDUCTOR SIGNAL TRANSMITTING SYSTEMS
Dietrich A. Jenny, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 30, 1953, Ser. No. 401,304
2 Claims. (Cl. 250—17)

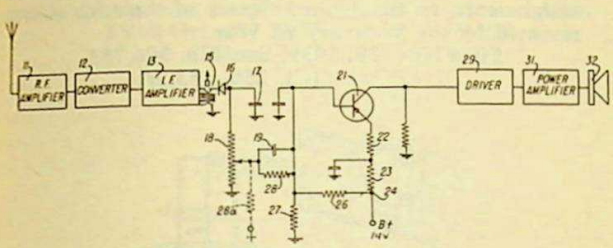


2. In combination with an amplitude modulated oscillator circuit including a semi-conductor device having a semi-conductive body and base, emitter and collector electrodes cooperatively associated therewith, a first means for converting applied acoustical energy into electrical energy, means including a rectifier circuit coupled between said first means and said device and operative to apply direct current biasing potentials to said device, said direct current biasing potentials from said rectifier providing the sole source of biasing potentials for said device, a second means for converting said acoustical energy into electrical energy, said second means being connected to amplitude modulate said oscillator circuit, and an output circuit for said oscillator circuit tunable to modulated oscillator signals connected with the collector electrode of said device.

2,999,927
RADIO RECEIVER CIRCUIT
Bernhard Birkenes, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 3, 1958, Ser. No. 771,538
3 Claims. (Cl. 250—20)

1. In an automobile radio receiver operative directly from an electrical system of a vehicle which provides a

potential subject to abrupt change during operation of the vehicle, including in combination, a detector circuit for demodulating radio signals comprising a signal input transformer, a detector diode, and a detector load impedance, said load impedance including first resistor means coupled between said detector diode and a reference point thereby forming a detector load across which demodulated signals are developed, an audio frequency amplifier circuit including a transistor having an input electrode and further electrodes, circuit means for deriving amplified signals from said furthehr electrodes, an audio frequency coupling capacitor connected between said first resistor means and said input electrode for applying the demodulated signals from said detector circuit to said audio frequency amplifier circuit, said coupling capacitor forming means for deriving detected audio frequency voltages from said detector circuit, voltage divider

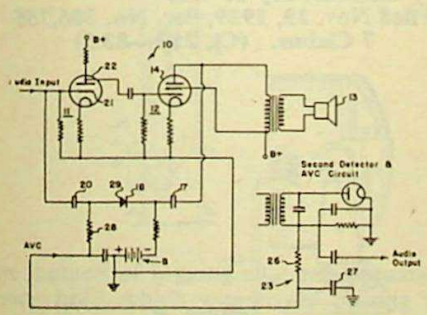


means energized by the vehicle electrical system and connected to said input electrode for biasing the same with respect to the reference point whereby a substantial direct current potential is developed across said coupling capacitor, said diode being poled to cause reverse biasing thereof upon the aforementioned potential change in the vehicle electrical system and consequent charge change of said coupling capacitor, and a second untapped resistor coupled solely from a point of said first resistor means remote from the reference point to a potential of the order of that established by the electrical system, said second resistor having a value substantially greater than that of said first resistor means whereby said first resistor means and said second resistor form a network to forward bias said diode and overcome the tendency for sensitivity change of said detector diode during the charge change of said coupling capacitor.

2,999,928
PORTABLE CLOCK-RADIO ALARM SYSTEM

Arthur W. Haydon, Milford, Conn., and Henry T. Winchel, Culver City, Calif., assignors to Consolidated Electronics Industries Corp., New York, N.Y., a corporation of Delaware

Filed Sept. 2, 1959, Ser. No. 837,679
1 Claim. (Cl. 250—20)

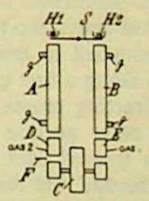


A radio receiving system for automatically detecting the presence or absence of a transmitted signal and for performing an alarm function in response to the absence of a transmitted signal, comprising circuit means for detecting said signal, said circuit means including automatic volume control voltage producing circuit means for automatically maintaining the strength of said signal at a substantially constant level, feedback circuit means including part of the voltage output circuit of an amplification stage in said radio receiving system for introducing a voltage additively into a preceding amplification stage such that said voltage will cause an oscillation to develop in the amplification stages across which said voltage is maintained, means for controlling the passage of said feedback voltage to said preceding stage comprising a diode connected in series with said feedback means, a source of biasing voltage normally biasing said diode to conduct said feedback voltage to said preceding stage, circuit means connecting the automatic volume control voltage producing circuit means to said diode to apply a voltage in opposing relation to said biasing voltage, said automatic volume control voltage being of such magnitude in relation to said bias voltage as to condition said diode to be substantially non-conductive of the positive feedback voltage when a transmitted signal of minimum predetermined strength is being received.

2,999,929
INFRA-RED GAS ANALYSERS

Albert E. Martin, John Smart, and Gordon L. Richardson, Newcastle-upon-Tyne, England, assignors to C. A. Parsons & Company Limited, Newcastle-upon-Tyne, England

Filed Apr. 2, 1956, Ser. No. 575,657
Claims priority, application Great Britain Apr. 6, 1955
6 Claims. (Cl. 250—43.5)



1. In an infra-red gas analyser for the analysis of two components of a gas mixture, comprising infra-red radiation source means, two separate paths for said radiation, means for introducing a gas mixture under test into one radiation path and a gas, which transmits infra-red radiation in the range of wave length absorbed by the gas mixture, into the second path for the analysis of one component gas, and for introducing said second mentioned gas into the first said path and said gas mixture under test into the said second path for the analysis of the second component gas, the combination with the said means for introducing gas into the two said paths of detection means comprising means in one path sensitive to one component gas to be detected and means in the other path sensitive to the other component gas to be detected.

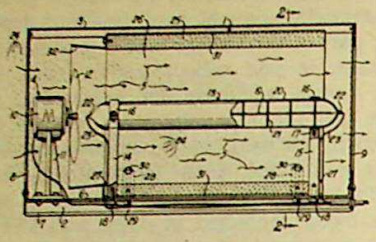
2,999,930
RADIANT ENERGY PURIFIER

Adolf J. Burklin and Francis W. Lauck, Milwaukee, Wis., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed May 26, 1959, Ser. No. 815,981
2 Claims. (Cl. 250—46)

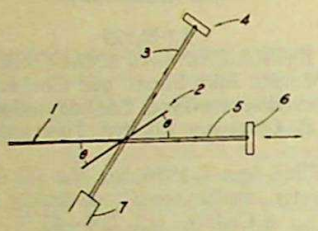
1. Apparatus for thermal treatment of dust particles in air without substantial heating of the air, and in which the air flows through a passage between opposed walls of material substantially transparent to radiant heat energy, a source of radiant heat energy behind one of said walls to apply radiant heat to the entire area within said passage, and a radiant energy reflector behind the oppo-

site of said walls and coextensive therewith to increase the radiant energy treatment of the dust particles in the



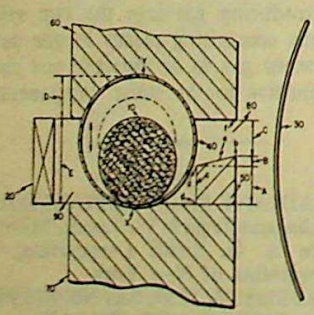
flowing air, said transparent material shielding the air from heat conduction from said source and said reflector.

2,999,931
X-RAY INTERFEROMETER
Placido William Zingaro, Hartsdale, N.Y., assignor to Philips Electronics, Inc.
Filed Dec. 4, 1958, Ser. No. 778,175
15 Claims. (Cl. 250—51.5)



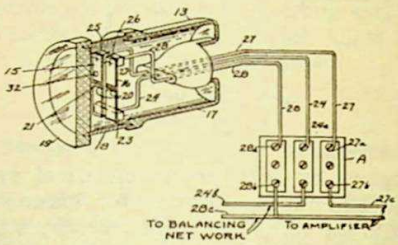
1. An X-ray interferometer comprising a detector, a first diffracting crystal positioned in the path of a beam of X-rays to divide said beam into two portions, a second diffracting crystal positioned to intercept and reflect one portion of the X-rays along a first given path toward said detector, a third diffracting crystal positioned to intercept and reflect the other portion of the X-rays along a second given path toward said detector, and means to move one of said second and third diffracting crystals relative to said detector to thereby vary the length of one of said paths and produce changes in intensity of the resultant beam of X-rays formed by combining said two portions of the X-ray beam in said detector.

2,999,932
MEASURING SYSTEM
David L. Spooner, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Dec. 12, 1957, Ser. No. 702,405
1 Claim. (Cl. 250—83)



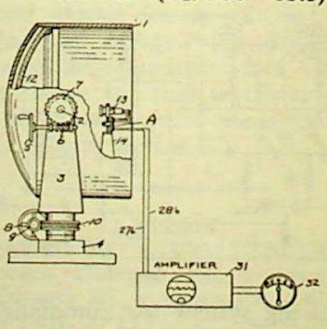
In a continuous measuring system for rod material moving freely through a pass tube, said system including a radio-active source of penetrative radiation, a detector electrically responsive to radiation incident thereat, and means for mounting said source and said detector adjacent said tube and in axial alignment with an aperture extending transversely therethrough, the height of said aperture being substantially equal to the diameter of said rod material, the improvement comprising a block of radiation absorbent material interposed in the aperture between said rod material and said detector and including a first surface transversing the width of said aperture and extending upwardly in perpendicular relationship to a plane paralleling the horizontal diameter of said rod material and extending therethrough below said diameter wherein radiation passing below said plane is substantially absorbed by said block, and a second surface extending upwardly and outwardly from said first surface toward said detector wherein radiation passing through a substantially small central portion of said rod material above said plane is reflected to fall upon said detector.

2,999,933
RADIATION RESPONSIVE MEANS
Charles F. Green, Schenectady, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of War
Filed Nov. 29, 1939, Ser. No. 306,753
2 Claims. (Cl. 250—83.3)



1. A detector comprising a high vacuum thermo-couple tube including a window transparent to thermal radiation, a pair of coplanar thermo-electric generating units arranged in side-by-side relation within said tube, the plane of said units being immediately to the rear of and parallel with the window of said tube, each unit being composed of a pair of vertically disposed narrow flat strips of electrically dissimilar conductors of an order of thinness within the range of 6 to 10 millionths of an inch, the strips of each unit being united to each other along a horizontally disposed junction line arranged intermediate of the strips and being coextensive with their widths, the junction lines of one pair of strips forming a continuation of the other pair of said strips, the respective units being electrically connected in opposition within said tube for automatically compensating for changes in background radiation.

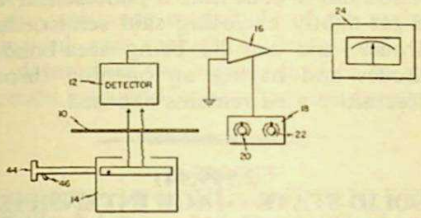
2,999,934
RADIATION DETECTOR APPARATUS
Laurens A. Taylor, Schenectady, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of War
Filed Nov. 29, 1939, Ser. No. 306,755
7 Claims. (Cl. 250—83.3)



1. In an apparatus for locating distant bodies by thermo-radiation, means for collecting and focusing the

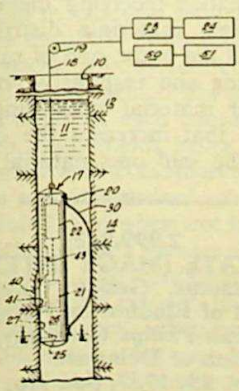
heat radiation from a distant body to form a thermal image thereof, means within the focal region of the collected heat radiation for translating thermal into electrical energy, said means including an evacuated vessel provided with a rock-salt window, thermo-responsive means within the vessel, said means being electrically connected in opposition to effect automatic compensation for changes in background radiation and including a pair of vertically extending laterally spaced thermal junction lines, the latter being such as to provide a relatively wide vertical acceptance angle, one of said thermal junction lines being positioned to receive the thermal image formed by said first-mentioned means and an indicating device in electrical relation with said thermo-responsive means.

2,999,935
CONVERTIBLE RADIATION SOURCE
George B. Foster, Worthington, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Oct. 30, 1957, Ser. No. 693,290
5 Claims. (Cl. 250—83.3)



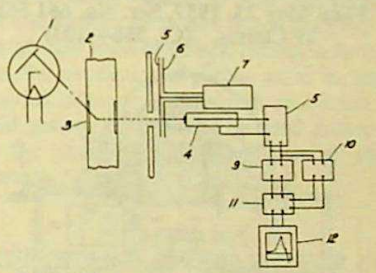
5. In a measuring system utilizing a radioactive source for determining the variable absorption characteristics of the material under test, a target assembly for varying the mean energy level of radiation emitted by said radioactive source comprising a plurality of bremsstrahlung generator sections each having a different atomic number, and a variable beta collimating section; means for restricting the radiation emitted by said source to an area of said assembly less than one of said sections, and means for altering the relative positions of said source and said assembly.

2,999,936
RADIATION WELL LOGGING
Gerhard Herzog and George M. Wood, Houston, Tex., assignors to Texaco Inc., a corporation of Delaware
Filed Dec. 6, 1957, Ser. No. 701,085
9 Claims. (Cl. 250—83.3)



1. The method of logging an earth formation traversed by a bore hole which comprises passing a vertically elongated radiation logging instrument through the bore hole while continuously urging said instrument toward one side of the bore hole in order to direct a sensitive face of the instrument against an adjacent formation, making a penetrative radiation log primarily indicative of a characteristic of the composition of the earth formations by bombarding an earth formation adjacent the bore hole with primary radiation emitted from a source carried by said instrument and detecting secondary radiation resulting from said primary radiation in a zone whose vertical dimension is a minor fraction of the length of the elongated instrument along its major axis, determining the condition of the wall of the bore hole by passing an electric current through a zone adjacent said sensitive face of the instrument and measuring the electrical resistivity between spaced positions along the sensitive face of the instrument in order to detect minor variations in the configuration of the formation defining the side of the bore hole adjacent said sensitive face of the instrument, recording a signal proportional to the detected radiation in correlation with the depth of the instrument in the bore hole, and recording a signal proportional to the electrical resistivity between said positions as an indication of the configuration of the formation adjacent said sensitive face of the instrument in correlation with the depth of the instrument in the bore hole.

2,999,937
X-RAY APPARATUS
Thomas R. Kohler, Ardsley, N.Y., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 20, 1958, Ser. No. 768,143
9 Claims. (Cl. 250—83.3)

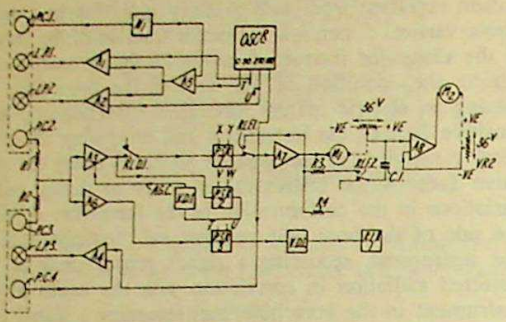


1. Apparatus for selectively measuring wave-lengths in a polychromatic beam of X-rays comprising means to detect said polychromatic beam of X-rays, and filter means positioned to intercept said polychromatic beam of X-rays before entering the detector in order that the intensity of a selected range of wavelengths may be measured including that of a wave-length corresponding to a given wave-length in said polychromatic beam of X-rays, said filter means comprising two pairs of filter elements, each pair of said filter elements being mounted in a rotatable disc member one pair of filter elements each having an absorption edge which is shorter than said given wave-length and the other pair of filter elements each having an absorption edge which is longer than said given wave-length, and means to rotate said disc member to alternately interpose between the specimen and detector two filter elements having the same absorption edge and two filter elements having different absorption edges.

2,999,938
AUTOMATIC LINE FOLLOWER
Arthur Hann, Henry Robert Legge, and Frank Alfred Richards, Luton, England, assignors to Hunting Engineering Limited, Bedfordshire, England, a British company
Filed Apr. 21, 1959, Ser. No. 807,872
Claims priority, application Great Britain Apr. 22, 1958
26 Claims. (Cl. 250—202)

1. Apparatus for following a line marked on a surface providing a background having a different reflectivity to that of the line, which apparatus comprises in combination a scanning unit comprising illuminating means for directing light at the surface so that the line is illumin-

ated and a light sensitive device for receiving light reflected back from the surface, said illuminating means providing two periodically-varying light outputs having a phase difference therebetween and respectively forming



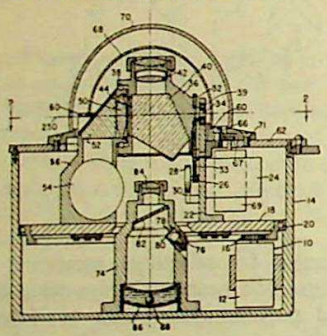
areas of illumination in the region of the line, means for moving the scanning unit relatively over the surface and means for analysing the output of the light sensitive device and for providing an output for monitoring the scanning-unit-moving means.

2,999,939

POSITION DETECTOR

Robert E. Bible, Burbank, Calif., Marc G. Dreyfus, Stamford, Conn., and James M. Parker, Livermore, and Robert R. Williamson, Tujunga, Calif., assignors to General Precision, Inc., a corporation of Delaware

Filed May 23, 1957, Ser. No. 661,565
29 Claims. (Cl. 250—203)



1. In combination for determining the relative position of a measuring object, means including energy-focusing means for producing a reference signal having parameters representing the particular disposition of a simulated body removed from the measuring object and at a particular position below the horizon of the measuring body to provide a reference even with variations in the positioning of the measuring object, means including the energy-focussing means for producing a signal representing the position of a particular body removed from the measuring object and at a selected position above the horizon, and means responsive to the reference means and to the last mentioned means for comparing the parameters of the first and second signals to produce a signal representing the position of the measuring object relative to the selected removed body.

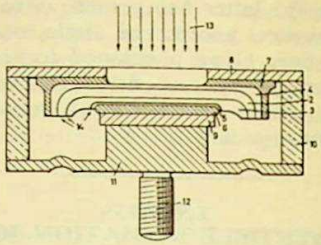
2,999,940

ENCAPSULED PHOTOELECTRIC SEMICONDUCTOR DEVICE

Arnulf Hoffmann, Schloss, Pretzfeld, Upper Franconia, and Walter Harte, Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed May 19, 1960, Ser. No. 30,127
Claims priority, application Germany May 29, 1959
2 Claims. (Cl. 250—211)

1. A photoelectric semiconductor device comprising a disc-shaped crystalline semiconductor body having four successive strata of alternately different types of conductance between the two disc faces so as to provide three n-p junctions of which each is formed between two adjacent ones of said strata and inversely poled relative to the next following junction, two electrodes containing donor and acceptor substance respectively and being alloy-bonded to the two outer strata respectively at the disc faces of said semiconductor body, said two outer



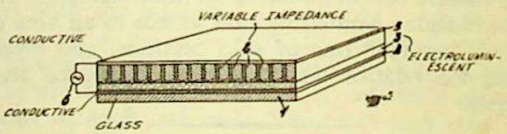
strata having lower ohmic resistance than said other two strata, one of said two electrodes being ring-shaped and leaving exposed a central portion of the adjacent semiconductor stratum to constitute a photosensitive area, and a capsule gas-tightly enclosing said semiconductor body and electrodes, said capsule being area-bonded to said two electrodes and having an opening through which said photosensitive area remains exposed.

2,999,941

SOLID-STATE IMAGE INTENSIFIER

Hendrik Anne Klasens, Johannes Gerrit van Santen, and Hendrik Jacobus Maria Joormann, all of Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 10, 1956, Ser. No. 615,183
Claims priority, application Netherlands Oct. 14, 1955
8 Claims. (Cl. 250—213)



1. A solid-state image intensifier comprising a radiation-receiving member and an electroluminescent member in juxtaposed relationship, and a pair of electrodes by means of which a potential can be applied to the juxtaposed radiation-receiving and electroluminescent members, said radiation-receiving member comprising a body containing two materials distributed in lumped amounts throughout the body, one of said materials being a radiation-absorbing and responsive variable-impedance material, the other material possessing a fixed impedance characteristic that increases the quantity of radiation absorbed by the said one material.

2,999,942

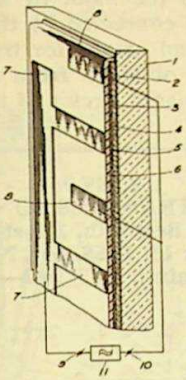
SOLID-STATE IMAGE INTENSIFIER

Hendrik Anne Klasens, Gesinus Diemer, and Sjoerd Theunis Stap, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 29, 1957, Ser. No. 699,591
Claims priority, application Netherlands Dec. 20, 1956
7 Claims. (Cl. 250—213)

1. A solid-state image intensifier comprising a first layer of radiation-responsive, variable-impedance material, a second layer of voltage-responsive, luminescent material adjacent the first layer and coupled thereto, a third conductive layer conductively connected to the second layer on the side thereof remote from the first layer, radiation-

unresponsive impedance elements on the side of the first layer remote from the second layer, and a pair of interleaved electrodes coupled to the side of the radiation-unresponsive elements remote from the first layer for applying a voltage to a radiation-unresponsive impedance

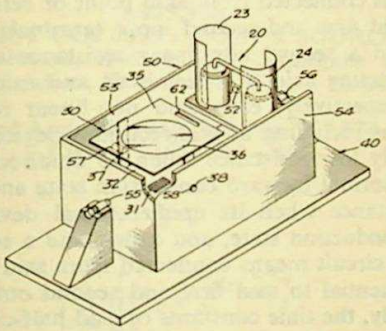


element in series with a parallel-arranged variable-impedance elemental area and luminescent elemental area, whereby the resistance magnitude of the variable-impedance elemental area, which is determined by incident radiation, determines the voltage applied to the luminescent elemental area and its resultant luminescence.

2,999,943
SELF-ORIENTING HELIOTROPIC DEVICE

Charles Willard Geer, Los Angeles, Calif., assignor to Hoffman Electronics Corporation, a corporation of California

Filed Dec. 8, 1959, Ser. No. 858,150
13 Claims. (Cl. 250—215)



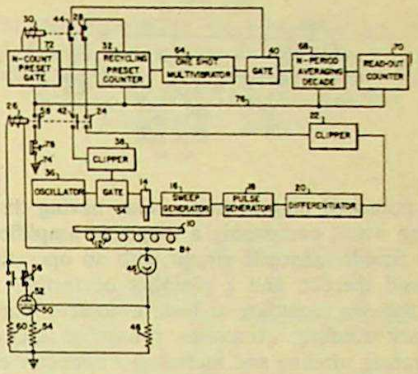
1. A positive heliotropic device including a temperature differential sensing mechanism having a plurality of containers which are tubularly connected and sealed so as to form a closed system, said system containing a predetermined quantity of liquid which has a low boiling point; a shield supported adjacent each container and movable in concert therewith, said shields being so proportioned and positioned that when said containers and a source of radiant energy are in a predetermined relation, said containers are equally insulated, and when not in said predetermined relation, said shields allow a greater amount of radiant enery to strike those of said containers most distant from said source and a lesser amount to strike those of said containers less distant from said source, thereby producing a temperature differential between said containers; and support means rotatably connected to said mechanism whereby said temperature differential between said containers results in a transfer of liquid to the cooler container thus causing a change in the static balance of said mechanism and rotation thereof with respect to said support until said temperature differential is eliminated.

2. A device according to claim 1 wherein a solar energy converter panel is coupled to said mechanism and is movable in concert therewith.

2,999,944
NON-CONTACTING WIDTH GAGE

John F. Laycak, Duquesne, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 29, 1959, Ser. No. 862,676
11 Claims. (Cl. 250—219)

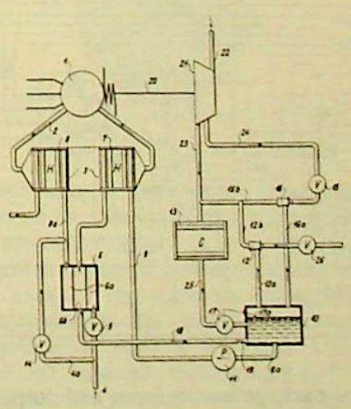


1. In apparatus for measuring the edge-to-edge dimension of an article, means for producing a train of voltage pulses having a predetermined pulse recurrence frequency, means for producing groups of pulses in which the number of pulses in each group is proportional to the dimension being measured and the recurrence frequency of the groups of pulses is equal to the recurrence frequency of said train of pulses, means including a counting device for producing a gating pulse in response to a predetermined number of pulses in said train, means for gating said groups of pulses with said gating pulse, and a device for counting the pulses passing through said gating means.

2,999,945
PROCESS OF AND APPARATUS FOR COOLING ELECTRICAL GENERATORS

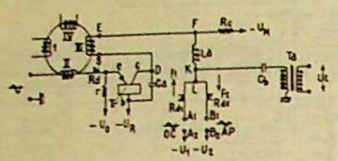
László Heller and Árpád Bakay, Budapest, Hungary, assignors to Licencia Talalmanyokat Ertekesito Vallalat, Budapest, Hungary

Filed Dec. 10, 1958, Ser. No. 779,475
Claims priority, application Hungary Dec. 14, 1957
12 Claims. (Cl. 290—2)



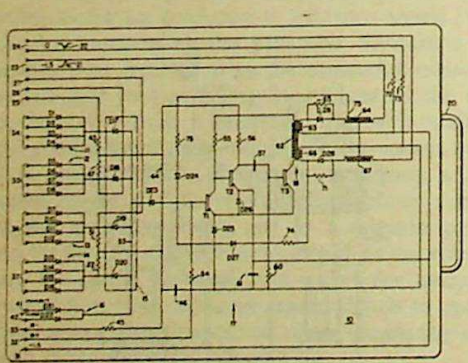
12. The process of cooling an electrical generator, comprising the steps of circulating a cooling medium through said generator, passing said cooling medium, when heated by said generator, in heat exchange relationship first with natural cooling water and then with a refrigerant condensate, and artificially cooling said condensate prior to reuse thereof for further cooling of additional quantities of said heated cooling medium, said last-mentioned step comprising evaporating a portion of said condensate in an evaporator of a refrigerating machine.

2,999,946
POLARISED MAGNETOSTATIC RELAY
Pierre Burstow, Paris, France, assignor to Compagnie Industrielle des Telephones, Paris, France, a corporation of France
Filed Feb. 2, 1959, Ser. No. 790,602
Claims priority, application France Feb. 13, 1958
7 Claims. (Cl. 307—88)



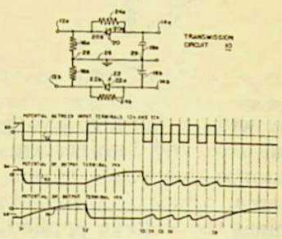
6. A polarized magnetostatic relay having three stable operating states, comprising a magnetic amplifier including a saturable magnetic circuit with an operating winding wound thereon and a plurality of further windings wound thereon including at least a control winding and a feedback winding, a transistor connected in circuit with the operating winding and including a collector electrode, said collector electrode being connected in a circuit including said feedback winding and a load impedance with the collector current providing negative feedback ampere-turns at said feedback winding, a pair of branch circuits connected to said collector circuit between the collector and said load impedance, each branch circuit including a rectifier and a respective direct-current source, each said direct-current source providing a potential in the respective branch circuit whereby each of said branch circuits may selectively be made conducting or non-conducting to direct-current, depending upon the potential of the collector which is determined by the total control ampere-turns of said further windings, and means connected to said branch circuits for utilizing the changes in direct-currents therein.

2,999,947
UNIVERSAL LOGICAL PACKAGE
Franklin R. Dean, Needham, Mass., assignor to Computer Control Company, Inc., Wellesley, Mass., a corporation of Massachusetts
Filed Dec. 5, 1957, Ser. No. 700,779
5 Claims. (Cl. 307—88.5)



4. A logical package having input and output terminals and adapted for interconnection and association with a plurality of identical packages for the implementation of logical operations comprising, a plurality of AND gates, each of said AND gates having a plurality of inputs coupled to said input terminals, an OR gate, means for applying the outputs of said AND gates as inputs to said OR gate, a transformer having a primary winding and a pair of secondary windings, a transistor connected to said primary winding for controlling the passage of current in said primary winding, biasing means connected to said transistor for maintaining said transistor in a steady condition in the absence of a trigger signal, a trigger circuit having its input coupled to the output of said OR gate, means coupling the output trigger signal of said trigger circuit to the input of said transistor, means for transmitting a regenerative signal from one of said secondary windings to the input of said trigger circuit, a signal delay device connected to the other of said secondary windings, and means for transmitting a delayed degenerative signal obtained from said delay device to the input of said trigger circuit to terminate said output trigger signal.

2,999,948
SIGNAL TRANSMISSION CIRCUIT
Robert W. Beckwith, Fayetteville, N.Y.
Filed May 15, 1958, Ser. No. 735,563
3 Claims. (Cl. 307—88.5)

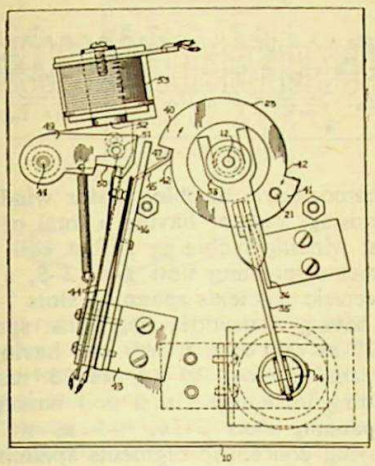


1. As a new use of an electric circuit adapted to produce, at a first and second output terminal thereof, respectively a first and a second unidirectional potential with respect to a point of reference potential in response to alternating potentials applied across a first and a second input terminal thereof, said circuit comprising a first and a second half-circuit balanced to one another with corresponding components of said half-circuits being balanced to one another, said first and second half-circuit respectively comprising: first and second resistance circuit means connected from said point of reference potential to said first and second input terminals respectively, a first and a second non-linear resistance circuit means interconnecting said first terminals and said second terminals respectively, each said non-linear resistance circuit means including a unidirectional device and having a relatively low resistance when its unidirectional device is in the normal forward conduction state and a relatively high resistance when its unidirectional device is in the reverse conduction state, and a first and a second output reactance circuit means connected from said point of reference potential to said first and second output terminal respectively, the time constants of said half-circuits, as determined by their respective resistive and reactive circuit means, when their respective unidirectional devices are in their said reverse conduction states being greater than the periodicity of alternation of said alternating input potentials, the method comprising applying across said input terminals unidirectional potentials of non-zero magnitude as well as said alternating potentials, whereby to produce at said output terminals, with respect to said point of reference potential, unidirectional potentials, with different combinations of polarities depending on whether unidirectional or alternating potential is applied to said input terminals.

2,999,949
ELECTRICAL RESET TIMING DEVICES
Harry H. Thompson, 4134 W. Newport, Chicago, Ill.
Filed July 27, 1959, Ser. No. 829,740
7 Claims. (Cl. 307—141.4)

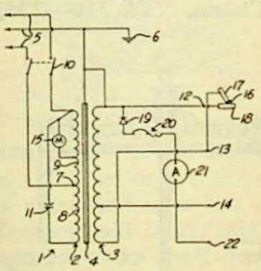
2. A device of the class described comprising a mounting plate, a motor on said plate and including a circuit therefor and a shaft, a cam on said shaft for rotation relative thereto, a torsion spring embracing the shaft and arranged between the cam and the plate for effecting rotation of the cam with the shaft, a normally open switch unit in said circuit and including cooperative con-

tact blades, a latch member pivotally carried by the plate and having latched engagement with one of the blades for releasably holding the switch unit in open position, the other blade of said switch unit engaging said cam, electromagnetic means for actuating said latch member to release said one of said switch blades to close said switch unit, pressure means for effecting rotation of said cam



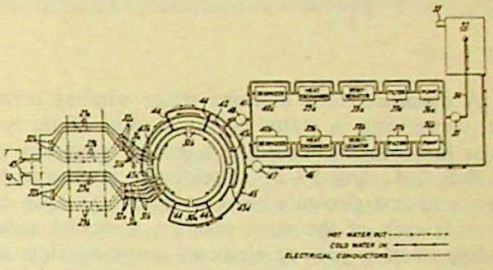
with said shaft by said torsion spring, electromagnetic means for actuating said pressure means to release said cam for rotation relative to said shaft in an opposite direction, and a starting switch to effect simultaneous energization of said electromagnetic latch actuating means and said electromagnetic pressure actuating means to release said latch member and said pressure means respectively.

2,999,950
DIRECT CURRENT POWER SOURCE
Arthur E. Johnson, Elkhorn, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Aug. 27, 1958, Ser. No. 757,574
7 Claims. (Cl. 307—155)



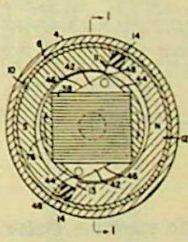
7. In a battery charging and arc welding power source adapted to be connected to a single-phase 3-wire power line having one ground wire, a metal housing for said power source, a welding transformer mounted within the housing and having a primary winding adapted to be connected across the full voltage of said 3-wire single-phase power lines and having a secondary output winding adapted to supply a welding current suitable for arc welding, an output terminal mounted on said housing and electrically connected to one end of the secondary output winding and to the housing and to said ground wire, a second output terminal mounted in insulated relation on said housing and connected to said secondary winding in electrically spaced relation to said first output terminal, a metal plate removably attached in direct contact to said housing, a rectifying element mounted on said metal plate and having a negative pole connected to said plate, and a third output terminal mounted in insulated relation on said plate and connected to a positive pole of the rectifying element whereby said first output terminal and said third output terminals provide an output suitable for charging a battery, said construction permitting provision of said battery charging circuit without necessity of internal electrical connection to the transformer.

2,999,951
DYNAMOELECTRIC MACHINE COOLING
Edward J. Flynn, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 26, 1957, Ser. No. 642,409
3 Claims. (Cl. 310—54)



1. In a dynamoelectric machine having a rotor member, a stator member and housing, means for the water cooling of said stator member, said means comprising conduit means within the conductor bars of said stator, connected in electrically insulating manner to means for maintaining the resistivity of the water coolant at a desirable level, said means comprising means for deoxygenating and deionizing said water.

2,999,952
SYNCHRONOUS MOTOR
Frederic J. Hammes, R.D. 1, Birdsboro, Pa., assignor of one-half to Dorothy C. Hammes, Birdsboro, Pa., and one-fourth to John A. Stinson, Jensen Beach, Fla.
Filed June 10, 1960, Ser. No. 35,264
9 Claims. (Cl. 310—154)

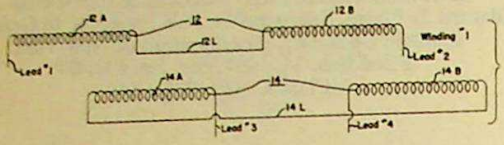


1. An alternating current motor comprising a stator, a rotor mounted for rotation within said stator, said stator comprising opposed magnetized cylindrical segments with adjacent segments being of opposite polarity and the inner surfaces of each of the segments being formed eccentrically with respect to the center of rotor rotation, said rotor comprising a coil, a magnetic core extending through said coil, said core having each end formed with a pair of relatively inclined surfaces meeting along a narrow circumferential surface extending substantially longitudinally of the rotor, the surface of each pair of surfaces extending generally in the direction of reducing radius of the stator surfaces forming a smaller angle with a tangent at the center of said narrow circumferential surface than is formed with said tangent by the other surface of each pair, and means supplying to said coil from an alternating current source a unidirectional power supply of one polarity during each portion of rotor rotation represented by one of said segments, said polarity reversing with successive segments.

2,999,953
WINDING ARRANGEMENT FOR DYNAMO-ELECTRIC MACHINE

Irving M. Levy, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 29, 1959, Ser. No. 843,158
4 Claims. (Cl. 310—166)

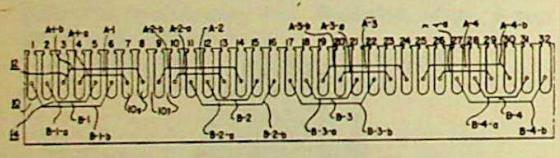


1. A dynamoelectric machine stator winding arrangement, comprising, a stator having a total of thirty-two slots, a first winding including a pair of elements spanning slots **1–11** and **17–27** respectively, numbered arbitrarily, said first elements being connected to each other to provide coils of the same polarity, a second winding including another pair of elements spanning slots **6–16** and **22–32** respectively, said second elements being connected to each other for the same polarity opposite to that of the first pair, said elements all having only one coil side per slot and elements of said first and second windings having overlapping relation to each other between slots **6–11** and also slots **22–27**.

2,999,954
TWO-SPEED FOUR-SIX POLE STATOR WINDING ARRANGEMENT

Irving M. Levy, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 29, 1959, Ser. No. 843,211
5 Claims. (Cl. 310—166)

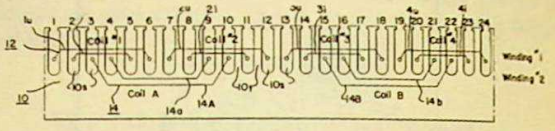


1. A dynamoelectric machine stator winding arrangement, comprising, a stator having a total of thirty-two slots numbered arbitrarily **1** through **32**, a first winding including a first coil having concentric segments spanning slots **3–8**, **4–7**, a second coil having concentric segments spanning slots **9–4**, **10–13**, a third coil having concentric segments spanning slots **19–24**, **20–23**, as well as a fourth coil having concentric segments spanning slots **25–30**, **26–29** respectively, a second winding including a first coil having concentric segments spanning slots **1–6**, **2–5**, a second coil having concentric segments spanning slots **11–16**, **12–15**, a third coil having concentric segments spanning slots **17–22**, **18–21**, as well as a fourth coil having concentric segments spanning slots **27–32**, **28–31** respectively, means connecting said first four coils together in pairs in a sequence of alternate polarity, said second four coils being wound and interconnected together in pairs in a sequence of alternate polarity, all of said elements of both first and second windings having only one coil side per slot and having overlapping relation such that one coil side of each of said elements of one winding is centrally located relative to elements of the other winding.

2,999,955
TWO-SPEED TWO-FOUR POLE STATOR WINDING ARRANGEMENT

Irving M. Levy, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 29, 1959, Ser. No. 843,210
6 Claims. (Cl. 310—188)

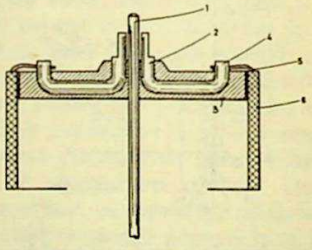


1. A dynamoelectric machine stator winding arrangement, comprising, a stator having a total of twenty-four slots, a first winding including a first coil having concentric segments spanning slots **1–6**, **2–5**, a second coil having concentric segments spanning slots **7–12**, **8–11**, a third coil having concentric segments spanning slots **13–18**, **14–17** as well as a fourth coil having concentric segments spanning slots **19–24**, **20–23** respectively, a second winding including a first coil having concentric segments spanning slots **3–10**, **4–9** as well as a second coil having concentric segments spanning slots **15–22**, **16–21** respectively, means connecting coils one and four in series with each other and joined at one end at least with coils two and three in series with each other, said coils of said second winding having a connection in series with each other such that one end is also joined where coils three and four of said first winding are joined, all of said coils of both first and second windings having only one coil side per slot such that one coil side of each segment fills one slot, each of said twenty-four slots having one coil side therein.

2,999,956
COMMUTATOR FOR MINIATURE MOTORS

Fritz Faülhaber, Johann-Sebastian-Bach-Weg 9, Schonaich, Wurttemberg, Germany

Filed Apr. 24, 1959, Ser. No. 808,651
Claims priority, application Germany Apr. 26, 1958
7 Claims. (Cl. 310—235)

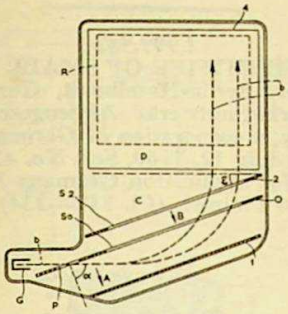


1. A commutator for a miniature device for interconversion of electrical and mechanical energy, comprising a number of commutator segments distributed about the axial center line of the commutator, each segment being formed of a piece of wire of rounded cross section and having a first portion of its length extending along and near said axial center line and an adjacent portion extending outwardly away from said center line, and a coaxially mounted body of insulating material in which the said adjacent portions are embedded, the respective ends of said first portions freely protruding from the insulating material at the same side and being insulated from each other by intermediate free air spaces, the said ends having outer inset surface portions forming in conjunction with each other a cylindrical coaxial collector surface having a radius less than that corresponding to the diameter of the original rounded wire plus the distance of the wire to said axial center line.

2,999,957
CATHODE RAY TUBE

Pieter Schagen, Salfords, near Redhill, and Nigel David Ritchie Calder, Crawley, England, assignors to North American Philips Company, Inc., New York, N.Y.

Filed July 24, 1957, Ser. No. 673,790
Claims priority, application Great Britain Aug. 1, 1956
13 Claims. (Cl. 313—79)

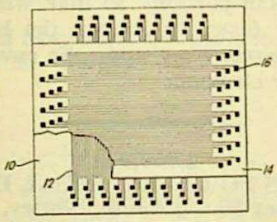


3. A cathode-ray device comprising a pair of spaced control electrodes of elongated form and defining therebetween a trajectory control space, an electron-receiving target associated with one of said electrodes, means for launching an electron beam into said trajectory control space along a selected trajectory, and means for establishing in said trajectory control space a graded electrostatic electron-deflecting field that continuously increases in intensity along a given dimension of the device for bending said selected trajectory to terminate on said target and for providing a focusing effect for the beam which varies in accordance with the selected beam trajectory.

2,999,958
ELECTROLUMINESCENT DISPLAY DEVICE

Edwin Roy Bowerman, Jr., Whitestone, and Albert J. Marko, Deer Park, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 24, 1959, Ser. No. 808,745
2 Claims. (Cl. 313—108)



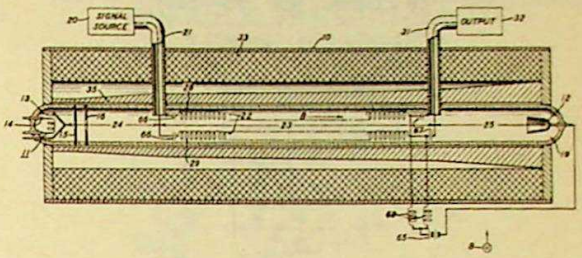
1. An electroluminescent device comprising an electroluminescent layer; a first set of parallel separate optically opaque electrodes extending in a first direction and secured to one surface of said layer, said first set of electrodes being composed of an inert metal selected from the class consisting of gold and platinum; and a second set of parallel separate optically opaque electrodes extending in a second and non-parallel direction and secured to the other surface of said layer, said second set electrodes being composed of aluminum, the electrodes in at least one of said sets of electrodes having widths substantially equal to the thickness of said electroluminescent layer, the thickness of said electroluminescent layer being between 1 and 3 mils.

2,999,959
TRAVELING WAVE TUBE

Johan Wilhelm Kluver, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 4, 1960, Ser. No. 19,553
8 Claims. (Cl. 315—3.6)

2. A transverse-field device comprising a cathode for forming and projecting a beam of electrons, said beam being characterized by a spurious cyclotron wave noise content, means for minimizing said cyclotron wave noise content comprising means for producing a high magnetic flux density throughout said cathode, a source of electromagnetic signal waves, input means coupled to said source

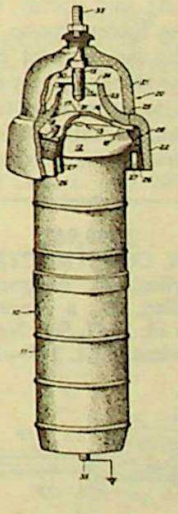


means including said input means for producing signal cyclotron waves on said beam, means for causing said signal cyclotron waves to interact with said electromagnetic signal waves, and means for causing said flux density to decrease with distance from said cathode to said input means.

2,999,960
LIGHTNING ARRESTER

Francis V. Cunningham, Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Dec. 12, 1957, Ser. No. 702,370
9 Claims. (Cl. 315—36)

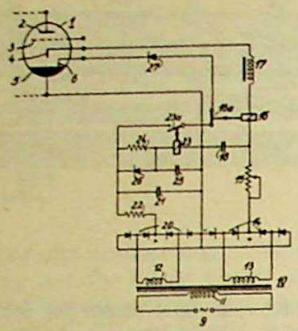


1. In combination, a valve type lightning arrested having one side connected to ground and including a housing having a conductive closure cap and enclosing a spark gap structure and a negative resistance element in series with said spark gap structure, and protective gap means in series relation with a power line and said conductive closure cap, said protective gap means comprising a housing, and first and second relatively spaced electrodes disposed within said protective gap housing, said protective gap housing having a re-entrant surface adjacent said first and second electrodes for increasing the creepage path between said first and second electrodes, one of said electrodes being adapted to be connected to said line and the other of said electrodes being supported by said conductive closure cap and supporting said protective gap housing.

2,999,961
IGNITION AND EXCITATION CIRCUIT FOR SINGLE-ANODE POOL-TYPE DISCHARGE VESSELS

Ludwig Filberich, Berlin-Siemensstadt, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Oct. 21, 1959, Ser. No. 847,794
Claims priority, application Germany Nov. 5, 1958
10 Claims. (Cl. 315—168)

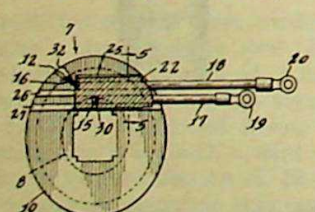


1. With a single-anode discharge vessel having a pool cathode, a main anode, an ignitor and an excitation anode, the combination of an ignition and excitation system comprising a pulse circuit connected between said cathode and said ignitor and having pulse generating means for supplying an ignition pulse to said ignitor, an excitation circuit connected between said cathode and said excitation anode and having continuous-current supply means, an electric energy storer and a direct-current source connected thereto for normally maintaining said storer in changed condition, and control circuit means connected with said excitation circuit and responsive to current change in said excitation circuit, said control circuit means connecting said energy storer to said pulse circuit for issuing an ignition pulse from said storer to said ignitor, whereby the moment of said pulse is dependent upon the vanishing moment of excitation current and independent of the phase condition of the discharge vessel to re-ignite said excitation prior to the next conducting halfcycle period of said vessel.

2,999,962
COIL CONSTRUCTION

John F. Wahl, Sterling, Ill., assignor to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois

Filed June 10, 1957, Ser. No. 664,673
2 Claims. (Cl. 317—158)

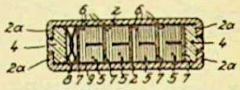


1. A coil construction comprising a spool having a core and two end portions of electrical insulating material, wire wound on said core between said end portions, at least three spaced parallel ribs of fusible material on the outer face of one of said end portions, said ribs defining two elongated grooves, said ribbed end portion having an aperture therethrough leading to one of said grooves, the inner end length of said wire extending through said aperture and lying in said one groove, the outer end length of said wire lying in the other of said grooves, a sleeve of fusible electrical insulating material on each end length of said wire and lying in part in the respective grooves, said sleeves each having a free end beyond said grooves, a terminal member mechanically fixed to the free end of each sleeve and electrically connected to the wire therein, said ribs and portions of said sleeves between said ribs being in fused relation with each other, whereby strain between said spool and said terminal members is carried by said sleeves and said wire end lengths are free of strain.

2,999,963
DRY RECTIFIER OF SMALL TYPE

Heinz Schneider, Berlin-Haselhorst, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed July 12, 1960, Ser. No. 42,255
Claims priority, application Germany July 22, 1959
6 Claims. (Cl. 317—234)

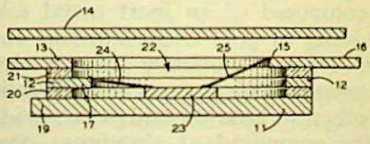


1. A dry rectifier comprising a stack of rectangular rectifier elements and connector plates, which stack is enclosed at the bottom and two opposite sides by a metallic member of U-shaped cross section lined by insulation, a top cover plate which rests upon a fourth side of the stack, bent lugs formed as extensions of opposite side walls of said member and serving to fasten the cover plate, the cover plate having lateral flange portions which rest upon contact edge faces of said opposite side walls, the middle portion of the cover plate protruding into the space between the said opposite walls, and constituting a spacer piece, said opposite walls having upper marginal portions which are bent to flare outwardly and upwardly in an inclined direction, whereby the edge faces of the walls providing said contact faces extend in the outward and downward direction, the said middle portion of the cover plate being wedge-shaped and being inserted between the flared-out portions, so that, when said lugs are bent inwardly to fasten the cover, the bending pressure imposes a stress exclusively upon the cover plate but not upon the rectifier elements.

2,999,964
HOLDERS FOR ELECTRICAL DEVICES

Mannes N. Glickman, Nutley, N.J.
(2780 Woodshire Drive, Hollywood 28, Calif.)

Filed July 18, 1960, Ser. No. 43,608
7 Claims. (Cl. 317—234)



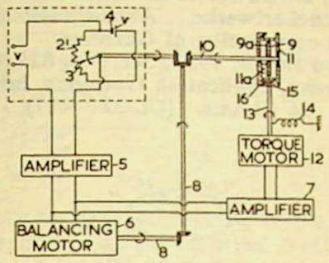
1. A casing for an electrical device having at least two terminal leads, comprising a bottom metal plate, an annular metal plate overlying the bottom plate, an annular layer of fused electrical insulating material securing said plates together to provide a hollow open ended casing for receiving therein said electrical device, means on interior surface portions of said plates for electrical connection to the leads of said device, means on external portions of said plates providing external electrical connections and adapted to allow for electrical testing of said device in the open ended casing, and a metal closure plate secured to outer surface portions of said annular plate for sealing said casing.

2,999,965

ELECTRICAL MEASURING SERVOSYSTEM

Leslie Airey, Cove, near Farnborough, England, assignor to National Research Development Corporation, London, England, a British corporation

Filed Apr. 28, 1959, Ser. No. 809,427
Claims priority, application Great Britain May 1, 1958
2 Claims. (Cl. 318—28)



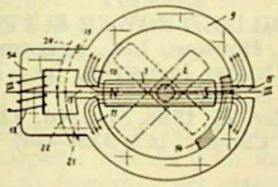
1. In an electrical instrument comprising a digital encoder having an input member and a carrier member, said carrier member having spring means normally holding it in a datum position, and a self balancing negative feed back servo system including a drive motor connected to be operated in accordance with the degree of unbalance of the system and connected mechanically to drive the input member of the digital encoder, the provision of a second drive motor connected electrically to be operated in accordance with the degree of unbalance of the system and connected mechanically to drive the carrier member against its spring influence in the opposite sense to that in which the input member is driven.

2,999,966

TIMEPIECE COMPRISING AN ELECTROMAGNETICALLY MAINTAINED OSCILLATING REGULATOR

André Beyner and René Besson, Neuchatel, Switzerland, assignors to Ebauches S.A., Neuchatel, Switzerland, a firm

Filed May 13, 1959, Ser. No. 812,841
11 Claims. (Cl. 318—132)



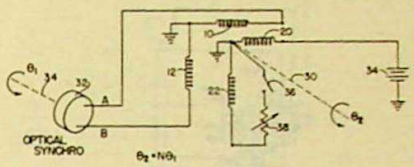
1. In a timepiece having an electromagnetically maintained oscillating regulator member, an oscillating field magnet, a ring having high magnetic permeability, situated in the immediate neighbourhood of the said magnet and canalising its magnetic flux in such manner as to divide it into partial fluxes, the number of which is equal to the number of poles of the magnet, the said ring being open at at least one point, a branch from the said ring, facing the said aperture, a pick-up winding coiled around the said branch of the ring, and a driving winding, situated in the area swept by the said magnetic flux when the said magnet oscillates, and intended to maintain the oscillations of the said magnet, the whole arrangement being such that, as long as the magnet is not situated opposite the aperture of the ring, the pick-up winding is washed by a constant magnetic flux, the value of which is equal to that of one partial flux, the said flux changing sign by passing through zero when one pole of the magnet travels past the said aperture of the ring, whereby there is induced in the pick-up winding an impulse signal which controls the feed of the driving winding in such manner that the regulator thus receives a single driving impulse per complete oscillation of the magnet.

2,999,967

SERVO SYSTEMS

Harold H. Seward, 7 Leroy Drive, Burlington, Mass.

Filed Apr. 23, 1959, Ser. No. 808,378
6 Claims. (Cl. 318—171)



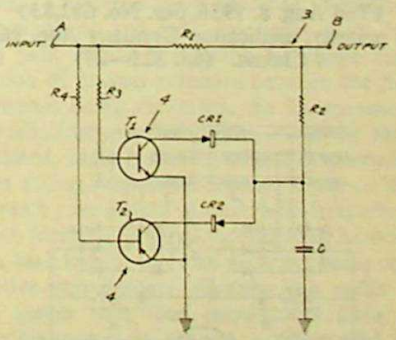
1. Apparatus for electrically driving a shaft comprising, in combination: a resolver including a stator and a rotor, each having a pair of space quadrature windings, and a shaft connected to said rotor; an optical synchro including a rotatable input shaft and operative in response to the position of said input shaft to provide first and second triangular waveform output signals in electrical phase quadrature, said signals having N cycles for each revolution of said input shaft where N is an integer greater than 1; connections from said optical synchro to said resolver for applying said first and second signals to one of said pairs of space quadrature windings to produce a magnetic field rotating N times for each revolution of said input shaft; and a source of excitation current connected to the other of said pairs of space quadrature windings.

2,999,968

SWITCHING CIRCUIT FOR NONLINEAR SERVO INTEGRAL COMPENSATION

Marvin Weiss, Pearl River, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware

Filed Oct. 19, 1959, Ser. No. 847,333
3 Claims. (Cl. 320—1)



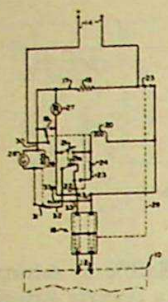
2. An integration circuit of the character described comprising an input terminal which is adapted to have a D.C. input voltage applied thereto, an output terminal, and a ground terminal, a storage capacitor interposed between said output terminal and said ground terminal, and a transistorized switching means interposed between said capacitor and said input terminal, said switching means being operative to add the capacitor voltage to the input voltage when the input voltage and the capacitor voltage have the same polarity and to instantly discharge said capacitor to zero potential through said ground terminal when the polarity of the capacitor voltage is opposite to the polarity of the input voltage.

2,999,969

SIGNALING ARRANGEMENTS FOR BATTERY CHARGING CIRCUIT

George H. Fritzinger and Sol S. Jaffe, West Orange, N.J., assignors, by mesne assignments, to The Electric Storage Battery Company, Philadelphia, Pa., a corporation of New Jersey

Filed Dec. 17, 1958, Ser. No. 780,981
11 Claims. (Cl. 320—48)



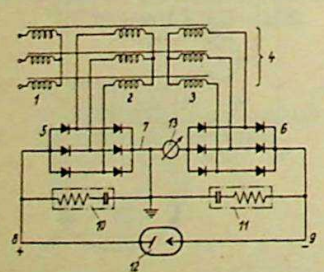
6. In a charging circuit for a sealed storage battery having a switch operable from a normal position as the battery reaches a predetermined state of charge: the combination of means for connecting a battery to said charging circuit, means for activating said charging circuit to start the charging of said battery, means controlled by said battery switch for releasing said activating means to terminate the charging of the battery as said battery switch is operated from normal position, a signaling device, means responsive to operation of said battery switch for placing said signaling device in operation, and means responsive to said connecting means as the battery is disconnected from said charging circuit for placing said signaling device out of operation.

2,999,970

CIRCUIT ARRANGEMENT FOR X-RAY APPARATUS PROVIDING FOR THREE-PHASE FULL WAVE RECTIFICATION OF ALTERNATING CURRENT

Heinz Schwesig and Kurt Bischoff, Erlangen, Germany, assignors to Siemens-Reiniger-Werke Aktiengesellschaft, Erlangen, Germany

Filed Aug. 8, 1956, Ser. No. 602,830
Claims priority, application Germany Aug. 16, 1955
4 Claims. (Cl. 321—27)



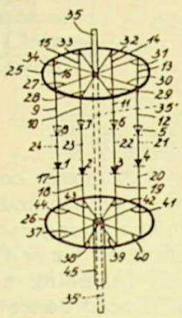
1. A three-phase high voltage generator with full wave rectification, for use in connection with X-ray apparatus, comprising primary winding means for each phase, an even number of secondary transformer windings for each phase, said windings being connected to form respective three phase winding groups, each of which contains a winding from each phase and produces three phase output voltages of identical magnitude, each winding group having a group of dry rectifier elements interconnected therewith in a three-phase full-wave rectification circuit, the direct-current outputs of the dry rectifier groups being connected in series with the opposite sides of the output of such series circuit being respectively allocated to the anode and cathode terminals of the X-ray tube and the symmetry point of the series circuit being grounded.

2,999,971

POWER CURRENT RECTIFIER WITH SEMICONDUCTING RECTIFIER UNITS

Paul Schnecke, Berlin-Siemensstadt, Germany, assignor to Siemens-Schuckertwerke, Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed July 9, 1959, Ser. No. 825,939
Claims priority, application Germany July 10, 1958
26 Claims. (Cl. 321—27)



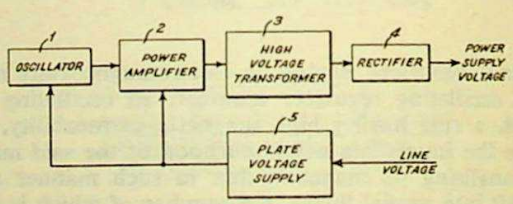
1. Power-current rectifier apparatus comprising a number of like semiconductor-rectifier units electrically connected in parallel, a system of conductors comprising two feeder buses having a common axis defining the center axis of the cage system, a number of conductor elements extending about said center axis and generally longitudinally thereto, said conductor elements being uniformly distributed about said axis and including said respective semiconductor-rectifier units, and two groups of connecting conductors radiating from each of said respective feeder buses and electrically connecting each bus with said respective cage-rod conductors on axially opposite sides respectively of said units, and means for propelling cooling gas between the radiating conductors.

2,999,972

STABILIZED POWER SUPPLY

Larry J. Stroman, Houston, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Mar. 13, 1958, Ser. No. 721,245
7 Claims. (Cl. 323—44)

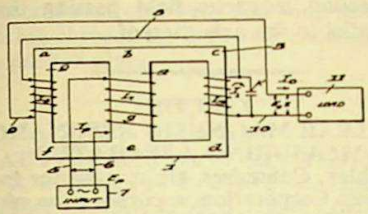


1. A power supply operable to translate a line voltage into a power supply voltage and to regulate the amplitude of the power supply voltage against changes in line voltage comprising means including an oscillator supplied with said line voltage and operable to supply an output voltage increasing with increasing line voltage, said means having a frequency of output voltage versus line voltage characteristic of one sense, and means including a transformer connected to said means including an oscillator to receive said output voltage and operable to supply said power supply voltage, said transformer having a power supply voltage versus frequency characteristic of the opposite sense to compensate for the said characteristic of said means including an oscillator.

2,999,973
TRANSFORMER APPARATUS

Lewis A. Medlar, Oreland, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 15, 1957, Ser. No. 646,429
17 Claims. (Cl. 323—60)



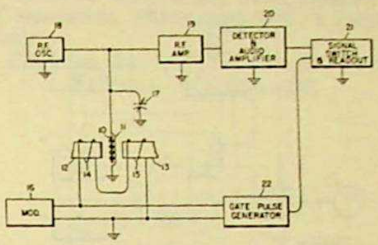
17. A magnetic servo system for supplying controllable magnitude alternating current from an A.-C. input to a load comprising at least three inductively coupled electrical coils, a first and a second of said coils being connected in series; an input, an ouput, and a control electrical circuit, all passing current, the input electrical circuit including one of (*a*) a third one of said coils and (*b*) the series combination of said first and second coils and being connected across said A.-C. input, the output electrical circuit including the other of (*a*) said third coil and (*b*) the series combination of said first and second coils and being connected across said load; the coils of said input and said output electrical circuits being linked by magnetic paths forming an input and an output magnetic circuit having two common portions, one of said magnetic circuits having a portion not common to both of said circuits and said input and output electrical circuits being so inductively related to said common portions that the input and output magnetomotive forces generated by the input and output currents aid in one of said common portions and oppose in the other; and a capacitive reactance, said control electrical circuit including said capacitive reactance and being inductively coupled to a first one of said common portions; whereby no power is directly coupled between said input and output electrical circuits, but the control current producing a magnetomotive force in said first portion of the magnetic circuits of phase and magnitude to produce a resultant of the control and output magnetomotive forces opposite to the output magnetomotive force in said first common portion and thereby to couple power from the input to the load through said control electrical circuit; the control magnetomotive force functioning as the standard and being automatically compared in said magnetic circuits with said output magnetomotive force to furnish a net magnetomotive force equal in magnitude and phase to their vector difference, said net magnetomotive force operating as the error and being automatically translated in the magnetic circuits into a circulating flux which produces an output voltage in said output electrical circuit, and the output voltage being operative to drive the output current which is the regulated quantity and which generates the output magnetomotive force, the feedback quantity.

2,999,974
SIGNAL SWITCH AND READOUT FOR NUCLEAR MAGNETIC RESONANCE MEASUREMENT APPARATUS

Clyde W. Pinkley, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed July 5, 1960, Ser. No. 40,754
8 Claims. (Cl. 324—.5)

1. In nuclear magnetic resonance apparatus for subjecting a material to be analyzed to mutually perpendicular magnetic and radio-frequency fields including a resonant tank circuit and amplifier circuitry to develop an absorption signal pulse train in response to a condition of nuclear resonance between the fields and for the material being measured, improved signal switch apparatus comprising a gate pulse generator developing a gate pulse train coincident with the signal pulse train, a bias voltage source, a first amplifier adding the gate pulse train and the bias voltage, a second amplifier adding the signal pulse train, gate pulse train and the bias voltage, a clipping circuit

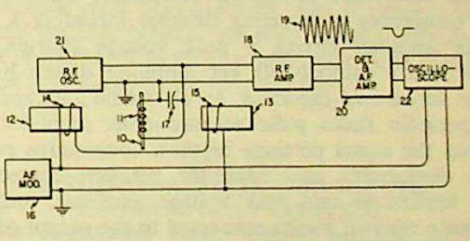


clipping the voltages added by the first amplifier, a second clipping circuit clipping the voltages added by the second amplifier, and a subtraction amplifier subtracting the added voltages of one of the adding amplifiers from the added voltages of the other adding amplifier, thereby developing an output signal pulse train with a substantially reduced noise level between output signal pulses.

2,999,975
NUCLEAR MAGNETIC RESONANCE MEASURING AND CONTROL DEVICE

Clyde W. Pinkley, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Mar. 3, 1958, Ser. No. 718,633
9 Claims. (Cl. 324—.5)

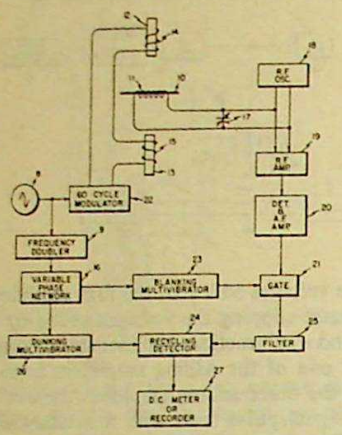


1. In nuclear magnetic resonance measuring apparatus for subjecting a material to be analyzed to mutually perpendicular magnetic and radio-frequency fields including a resonant tank circuit developing a voltage responsive to a condition of nuclear resonace between the fields and for the material being measured, the improvement comprising a radio-frequency amplifier driven by the amplitude-modulated, radio-frequency signal developed by said tank circuit during nuclear resonance, a pair of diode detectors driven by the output of said radio-frequency amplifier and each including a serially-connected, half-wave rectifier and a load impedance, said rectifiers being oppositely poled relative one another whereby the audio voltages developed across said load impedances have opposite polarities with respect to ground, a differential amplifier including a vacuum tube having anode, cathode and control grid electrodes, a cathode-follower including a vacuum tube having anode, cathode and control grid electrodes and applying the follower output to the cathode of the amplifier, means applying the audio voltage developed across one of said load impedances to the cathode-follower input and the audio voltage developed across the other load impedance to the control grid of said differential amplifier with said amplifier cathode and control grid electrodes being driven in opposite polarity directions relative one another, and a common output impedance connected to the anode of said audio amplifier so that an audio signal is produced at the amplifier output signal which is proportional to the algebraic difference of the two audio signals applied to the differential amplifier.

2,999,976
NUCLEAR MAGNETIC RESONANCE MEASURING AND CONTROL DEVICE

Kenneth E. Francis, Worthington, and Frank M. Alexander, Columbus, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Mar. 3, 1958, Ser. No. 718,894
7 Claims. (Cl. 324—.5)

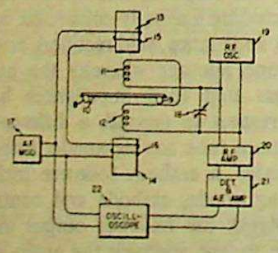


3. In nuclear magnetic resonance measuring apparatus for subjecting a material to be analyzed to mutually perpendicular magnetic and radio-frequency fields including a resonant tank circuit developing a radio-frequency signal that is amplitude modulated in response to periodic conditions of nuclear resonance between the fields and for the material being measured and an audio-frequency detector developing an audio pulse in response to each occurrence of nuclear resonance, the improvement comprising a recycling detector including a peak voltage amplifier having a peak voltage charging capacitor and a cathode-follower amplifier driven by the voltage across said capacitor, an electronic gate applying each periodic audio pulse to said peak amplifier and rejecting the signal portions between consecutive pulses, means discharging said capacitor between consecutive pulses applied to said peak voltage amplifier, and low impedance readout means connected to the output of said cathode-follower amplifier.

2,999,977
NUCLEAR MAGNETIC RESONANCE MEASURING SYSTEM

Leonard C. Brown, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed May 20, 1958, Ser. No. 736,632
10 Claims. (Cl. 324—.5)

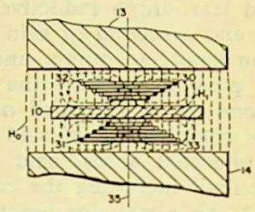


1. In nuclear magnetic resonance measuring apparatus for subjecting flat sheet material to be analyzed to mutually perpendicular magnetic and radio-frequency fields including a resonant tank circuit developing an output signal responsive to a condition of nuclear resonance between the fields and for the material under measurement, the improvement comprising a pair of relatively flat coils axially aligned and spaced in a parallel relationship with respect to one another and included in said resonant tank circuit, a radio-frequency source energizing said coils to produce opposing radio-frequency magnetic fields in the common space therebetween with axial components cancelling one another and radial components reinforcing one another, means adapted to support the flat sheet material under measurement in the space between the coils, and a pair of spaced magnet poles developing a second magnetic field passing through said coils and parallel to the axis thereof.

2,999,978
NUCLEAR MAGNETIC RESONANCE MEASURING APPARATUS

Clyde W. Pinkley, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Dec. 28, 1959, Ser. No. 862,361
10 Claims. (Cl. 324—.5)

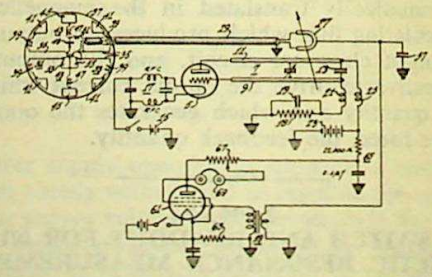


1. In nuclear magnetic resonance measuring apparatus for subjecting flat sheet material to be analyzed to mutually perpendicular magnetic and radio-frequency fields including a resonant tank circuit developing an output signal responsive to a condition of nuclear resonance between the fields and for the material under measurement, the improvement comprising a pair of identical coils axially aligned and spaced with respect to one another so that the distance between corresponding turns on the two coils equals the radius of the turns, a radio-frequency source energizing said coils to produce opposing radio-frequency magnetic fields in the common space therebetween and as measured along the axis, means adapted to support the flat sheet material under measurement in the space between the coils, and a pair of spaced magnet poles developing a second magnetic field passing through said coils and parallel to the axis thereof.

2,999,979
APPARATUS FOR SUBSURFACE INVESTIGATING

Harry J. Woll, Haddon Heights, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Nov. 15, 1946, Ser. No. 709,897
9 Claims. (Cl. 324—3)



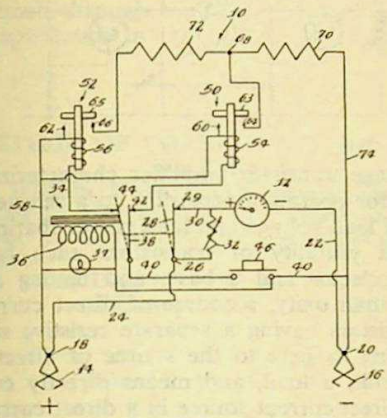
8. A detector for foreign objects located under the surface of the earth comprising in combination, a high frequency oscillator, a pair of spaced dipole transmitting antennas, each having two opposed legs disposed about the circumference of a circle, each leg comprising a self-supporting inductance coil and a terminating capacity plate, said inductance coils and capacity plates conforming with and lying substantially in the circumference of

said circle, a crossed-over two-wire transmission line extending along a diameter of said circle, means including said transmission line for energizing said transmitting antennas in phase opposition from said oscillator, and a dipole receiving antenna interposed between and equally capacitively coupled to said transmitting antennas in the radiation field thereof so as to be normally non-responsive to signals therefrom, said receiving antenna including in each leg thereof an inductance element and a terminating capacitor plate.

2,999,980
AUTOMATIC BATTERY TESTER

Robert E. Barnes, 114 E. Grove St., Algona, Iowa

Filed Feb. 14, 1958, Ser. No. 715,311
2 Claims. (Cl. 324—29.5)



1. An automatic battery tester for total battery voltage operable by following identical procedures on either a 6 volt battery or a 12 volt battery to provide a "no load" voltage test and a "load" voltage test utilizing the full range of the same voltmeter for each type battery, said tester comprising:

a pair of tester terminals adapted to be connected to a battery;

a dual purpose voltage discriminating relay switch connected between said tester terminals and including a pair of switch means, said relay switch non-responsive to a 6 volt battery and responsive to a 12 volt battery;

a voltmeter connected in series with one of said switch means between said tester terminals;

a multiplying resistance connected between said voltmeter and said one switch means whereby meter current traverses said multiplying resistance on 12 volt battery operation and bypasses same on 6 volt battery operation, thereby utilizing the full range of said voltmeter for either voltage condition and providing a "no load" voltage test;

a dual load circuit between said tester terminals, said dual load circuit including,

a manual switch connected between one of said tester terminals and the other switch means of said voltage discriminating relay switch;

a 6 volt range load resistance;

means including said other switch means and responsive to closure of said manual switch connecting said 6 volt range load resistance between said tester terminals when said voltage discriminating relay switch is non-responsive;

a 12 volt range load resistance;

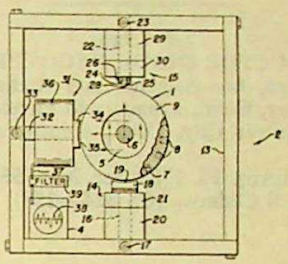
means including said other switch means and responsive to closure of said manual switch connecting said 12 volt range load resistance and said 6 volt range load resistance in series between said tester terminals when said voltage discriminating relay switch is responsive;

whereby when said manual switch is closed the proper load resistance for the battery under test automatically is connected in circuit with the battery, thereby providing a "load" voltage test utilizing the full range of said voltmeter.

2,999,981
APPARATUS FOR TESTING DEFECTS IN METAL MEMBERS

Walter L. Probert, Wauwatosa, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Jan. 14, 1959, Ser. No. 786,784
7 Claims. (Cl. 324—34)

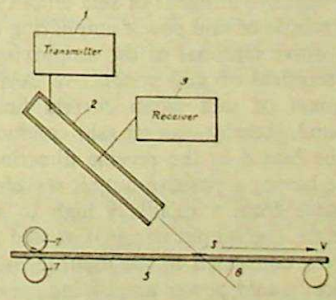


1. A detection unit adapted to inspect like successive circumferential areas of a magnetic member, which comprises a main field structure having a pair of spaced magnetic pole means spaced to allow movement of said magnetic member therebetween to establish a magnetic cross field, one of said pole means having a circumferential span generally corresponding to one of said successive areas and the other of said pole members having a circumferential span equal to at least two of said successive areas, and a detector arranged to respond to a change in the magnetic cross field resulting from movement of the magnetic member between the pole means to establish an output proportional to the characteristic of said successive areas of said moving magnetic member.

2,999,982
ELECTROMAGNETIC DEVICE FOR HOMOGENEITY CONTROL

Georges Broussaud, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Jan. 6, 1958, Ser. No. 707,391
Claims priority, application France Jan. 25, 1957
6 Claims. (Cl. 324—58.5)



6. A device for automatically detecting homogeneity defects in a body of compact material, said device comprising: an ultra high frequency generator of microwave energy, energy guiding means operatively connected to said generator for transmitting said microwave energy at an acute angle upon a limited surface portion of said body; means for supporting said body adjacent to said energy guiding means; means for effecting relative movement between said energy guiding means and said body while maintaining the distance therebetween generally constant; and receiver means including means for collecting part of said ultra high frequency energy returned

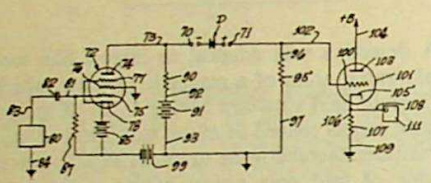
from said limited surface portion toward said guiding means; said energy guiding means being so oriented with respect to the body supporting means and the means for effecting relative movement between said guiding means and said body to produce at said collecting means ultra high frequency energy of one frequency reflected by said body and ultra high frequency energy of a different frequency resulting from energy diffraction by said body due to defects therein at said limited surface portion, said receiver means heterodyning the reflected energy of said one frequency and the diffracted energy of said different frequency to provide indication of such defects in the body.

2,999,983

SEMICONDUCTOR DIODE RECOVERY TESTER

Joseph M. Stern, Los Angeles, and Richard H. Fuller, Playa Del Rey, Calif., assignors to Pacific Semiconductors, Inc., Culver City, Calif., a corporation of Delaware

Filed Aug. 18, 1958, Ser. No. 755,593
8 Claims. (Cl. 324—158)



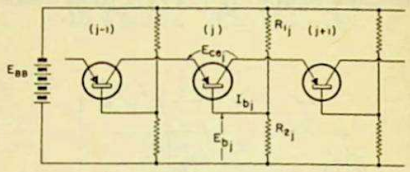
6. A circuit for measuring the reverse recovery effect in an asymmetrically conductive device comprising: a load resistor connected in series relationship with said conductive device, one terminal of said load resistor being connected to the positive terminal of said conductive device and the other terminal of said load resistor being connected to ground; power amplifying means including a non-linear amplifying device, a first direct current potential source, a second direct current potential source of greater voltage than said direct current first potential source, and a limiting resistor having one terminal connected to the positive terminal of said amplifier device and the other terminal connected to the positive terminal of said first direct current potential source, the positive terminal of the second direct current potential source being connected to the negative terminal of said first direct current potential source and the negative terminal of said second direct current potential source being connected to the negative terminal of said amplifying device, the output terminals of said power amplifying means connecting the positive terminal of the amplifying device to the negative terminal of said conductive device and the negative terminal of said direct current first potential source to ground, thereby causing said conductive device to normally be biased in the reverse direction; a cyclic voltage source having a positive output waveform with a rapid decay time from a relatively high to a relatively low voltage level, one output terminal of said cyclic voltage source being connected to the input terminal of said amplifier device in said power amplifying means and the other output terminal connected to ground; a cathode ray oscilloscope for measuring the current flow through said conductive device; and a cathode follower for preventing the transmission to said cathode ray oscilloscope of forward current pulses passing through said conductive device, said cathode follower having its input terminals connected across said load resistor and its output terminals connected across the vertical deflection input terminals of said cathode ray oscilloscope, whereby a positive output pulse from said cyclic voltage source causes the flow of forward current through said conductive device and a negative voltage drop across said load resistor thereby cutting off the output current flow through said cathode follower, the steep trailing edge of the positive voltage pulse resulting in the flow of transient recovery current through said conductive device permitting the measurement of the recovery current by said cathode ray oscilloscope.

2,999,984

SERIES-ENERGIZED CASCADED TRANSISTOR AMPLIFIER

Kenneth H. Beck, Newtown, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Feb. 13, 1956, Ser. No. 565,056
1 Claim. (Cl. 330—18)



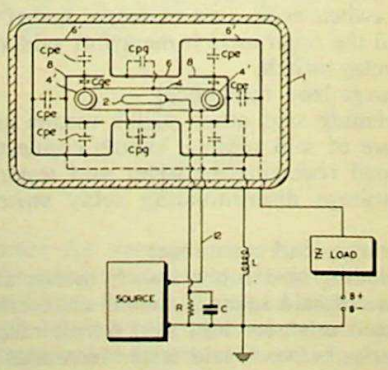
A multi-stage transistor amplifier characterized by its adaptability for operation according to a selected one of a plurality of load voltage and load power sharing modes, comprising a plurality of transistors each having an emitter, a collector and a base, and having a current gain of less than unity, a source of direct current, each of said transistors having a separate resistive signal circuit connecting its base to the source of direct current, an input circuit, a load, and means directly connecting across said direct current source in a direct current series circuit said input circuit, the emitter to collector circuit of all of said transistors, and said load in the order stated, each of said separate resistive signal circuits including a separate pair of series-connected resistors individual to and associated with the corresponding one of said transistors, a connection between the junction of the two resistors in each of said pairs and the base of the corresponding one of said transistors, and means connecting each of said pairs of resistors directly across said direct current source, the resistance of each of said resistors being selectively proportioned with respect to the load and the current gain of the associated transistor to provide operation according to the selected one of said modes.

2,999,985

ELECTRON-TUBE STABILIZED AMPLIFIER

Ben H. Tongue, West Orange, N.J., assignor to Blonder-Tongue Electronics, Newark, N.J., a corporation of New Jersey

Filed Aug. 13, 1959, Ser. No. 833,510
5 Claims. (Cl. 330—80)



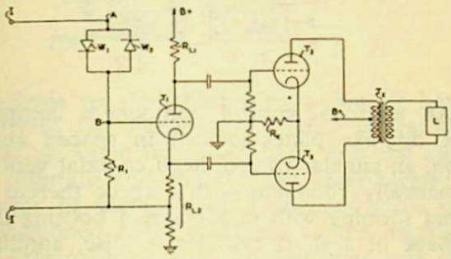
1. An electron-tube circuit for operation at a predetermined radio frequency having, in combination, an elec-

tron tube provided with an anode, a grounded cathode and a control electrode forming an active region in the tube for the flow of electrons therebetween, and a further electrode within the tube extending external to the said active region and capacitively coupled to portions of the said anode and control electrode also extending external to the said active region, radio-frequency input and output circuits connected from the cathode to the control electrode and to the anode, respectively, and a circuit connection from the said further electrode to ground having an impedance therein of sufficient reactance at the said predetermined radio-frequency to shift the phase of the radio-frequency energy fed from the said output circuit to the said input circuit through said capacitive coupling from the said external portions of the anode and control electrode to the further electrode substantially one hundred eighty degrees with respect to the phase of the radio-frequency energy fed from the said output circuit to the said input circuit through the inherent anode-to-control electrode capacitance in the said active region of electron flow.

2,999,986
METHOD OF CORRECTING NON-LINEAR DISTORTION

George William Holbrook, Kingston, Ontario, Canada, assignor to Her Majesty the Queen in the Right of Canada as represented by the Minister of National Defence

Filed Dec. 13, 1957, Ser. No. 702,595
11 Claims. (Cl. 330—149)

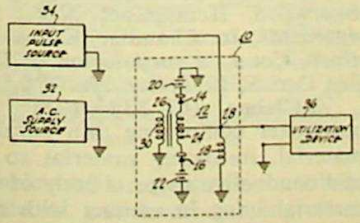


1. In a signal transmission circuit including a vacuum tube having a non-linear dynamic transfer characteristic whereby to cause a signal applied to said circuit to be distorted by said circuit; apparatus for compensating for said distortion comprising an impedance network formed of interconnected two-electrode linear circuit elements and at least one two-electrode non-linear circuit element having a non-linear impedance/applied voltage characteristic; said impedance network having an output connected to said vacuum tube and an input for connection to the source of the signal to be transmitted by said transmission circuit, said network having a transfer function complementary to the transfer function of said transmission circuit.

2,999,987
CONVERTER CIRCUITS

Kam Li, Levittown, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 18, 1959, Ser. No. 813,881
12 Claims. (Cl. 332—1)

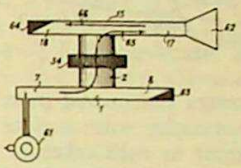


1. A circuit for converting a unidirectional pulse signal to a phase signal comprising a parametric oscillator having an input for receiving said pulse signal and an output for providing said phase signal, means for applying supply signals to said oscillator, said oscillator, upon application of said supply signals, oscillating in either one or the other of two phases, said oscillations building up to a maximum value in a given time interval, and means for applying selectively said pulse signal during said given time interval to control the phase of said oscillations.

2,999,988
RESONANT DIRECTIONAL COUPLERS

Pierre G. Marié, 16 Rue de Varize, Paris, France

Filed Mar. 17, 1954, Ser. No. 416,869
Claims priority, application France Mar. 23, 1953
16 Claims. (Cl. 333—10)



16. A wave guide coupler system comprising a first rectangular wave guide adapted to support an electromagnetic wave in the TE_{01} rectangular mode, said guide having an aperture in the wide wall thereof centered about a point at which the longitudinal and transverse current components of said wave in said wall are of substantially equal magnitude and in phase quadrature, a cylindrical cavity resonator affixed at one end to said principal rectangular guide coaxially with said aperture with the end of said cavity resonator adjacent said guide closed except at said aperture, said cavity resonator having such a diameter as to support said wave only according to the TE_{11} circular mode, and a second rectangular wave guide the axis of which may have any direction parallel to the wide face of said first rectangular guide, said second rectangular guide being adapted to support said wave in the TE_{01} rectangular mode and having an aperture in one of its wide walls centered about a point at which the longitudinal and transverse current components of said wave in said wall are of substantially equal magnitude and in phase quadrature, said second rectangular guide being affixed to said cavity resonator with its aperture coaxial with said cavity resonators and with the end of said cavity resonator adjacent said second rectangular guide closed except across the aperture in said second rectangular guide.

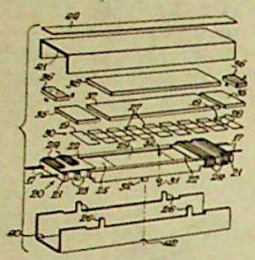
2,999,989
ELECTRO-MECHANICAL FILTER

Bernard Niederman, Chicago, and Rudolph L. Pohanka, Berwyn, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois

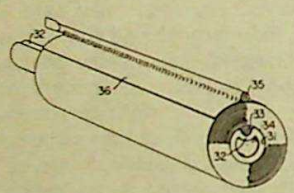
Filed Feb. 6, 1958, Ser. No. 713,660
3 Claims. (Cl. 333—71)

1. An electromechanical filter for use with electrical circuits including in combination, a filter structure including a plurality of plates disposed in edge-to-edge spaced relationship and interconnected by wires, a pair of inductive coils for coupling said filter structure to the electrical circuits, said coils each having separate sections, an elongated unitary supporting member of insulating material having an intermediate portion supporting said filter structure and having opposite end portions respectively supporting said coils in operative relation, a container surrounding said supporting member and said filter structure thereon and having closure members posi-

tioned at the end portions of said supporting member, a pair of terminal pins directly attached to said end portions of said supporting member and projecting therefrom through said closure members in engagement therewith so as to support said supporting member within said container, said end portions each having a plurality of notches therein disposed in opposing pairs and a recess interconnecting the same, said coils being wound around said supporting member at opposite ends thereof with said separate sections of each coil being disposed in said recesses and in said pairs of notches, said pairs of notches retaining said sections in spaced relationship with respect to each other, a pair of magnets disposed on opposite sides of each of said coils, said filter structure having end-plates at opposite ends thereof disposed respectively between said magnets and within the sections of said coils nearest the center of said supporting member and spaced from the sections of said coils nearest the ends of said supporting member for minimizing power losses.



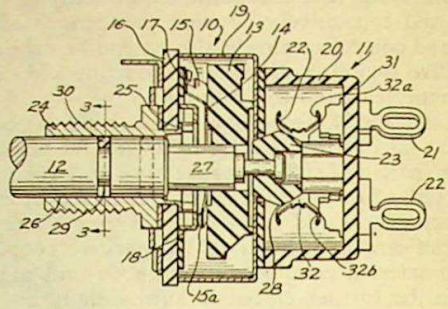
2,999,990
WAFER COIL
Albert Zack, Danvers, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed July 17, 1956, Ser. No. 598,342
3 Claims. (Cl. 336—192)



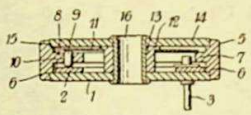
1. A wafer coil comprising a generally cylindrical core, a plurality of turns of alternating conductive and insulating material spirally wrapped on said core, an originating connecting tube electrically connected to the leading edge of the conductive material, and a terminating connecting tube electrically connected to the trailing edge of the conductive material, said core having a reentrant curved channel formed in the periphery thereof, said originating connecting tube being disposed within said curved channel.

2,999,991
GROUNDING MEANS FOR ELECTRICAL CONTROLS WITH A RECIPROCATING SHAFT
Stanley O. Bender, Elkhart, Ind., assignor to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed June 20, 1960, Ser. No. 37,364
11 Claims. (Cl. 338—162)

1. An electrical control comprising, in combination, a shaft, a variable resistor and a switch mounted in tandem on the shaft, a housing for the variable resistor and the switch, a mounting bushing having a bore, the bushing being attached to the housing with the shaft reciprocally and rotatably mounted in the bore of the mounting bushing, a groove in the shaft located within the bore of the mounting bushing, resilient means disposed in the groove in compression between the groove and the bore of the mounting bushing and encompassing less than one half the circumference of the groove.



2,999,992
ELECTRICAL CONTROL COMPONENTS
Desmond George Morrish, Welling, England, assignor to Ardente Acoustic Laboratories Limited, London, England, a British company
Filed July 19, 1955, Ser. No. 523,069
Claims priority, application Great Britain July 19, 1954
4 Claims. (Cl. 338—163)

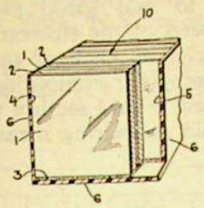


1. An electrical control component comprising two similar disc-like plates located in spaced and co-axial relation, an annular control head co-axial with the plates and manually rotatable with respect thereto about its axis and forming with said plates a housing in the general shape of a short cylinder or disc, annular bearing surfaces on said control head co-axial therewith and in engagement with corresponding surfaces at the peripheries of the plates to form bearings for the rotational movement and at the same time to locate said control head on the plates and space the latter apart, a centrally located spacing member to further assist in spacing said plates apart, fastening means extending between the two plates to press them against said spacing member and against the bearing surfaces of the control head, a resistance element mounted on the inward face of one of said disc-like plates, an inwardly extending projection on said control head, a contact member located in, and by, said projection for contacting said resistance element and for traversing the latter, terminal means on at least one of said plates for connection to an external circuit, and connecting means connecting said element and said contact member to said terminal means, whereby rotation of said control head causes variations of resistance in said external circuit.

2,999,993
POTENTIOMETER
Walter A. Sherwood, Hempstead, N.Y., assignor, by mesne assignments, to Chandler Evans Corporation, West Hartford, Conn., a corporation of Delaware
Filed Dec. 5, 1958, Ser. No. 778,522
8 Claims. (Cl. 338—176)

1. A potentiometer comprising thin parallel strips of conductive material, insulating material so disposed as to separate said conductive strips, a body of continuously conductive material lying in contact with each of said strips, parts of said strips and said insulating material spaced from the resistance material lying exposed in a common plane to constitute a smooth working surface

for the passage of suitable pick-up means, and a protective insulating coating covering the resistance material

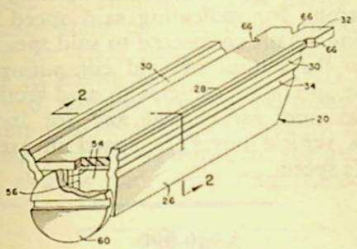


and adjacent surfaces of the conductive strips and insulating material.

2,999,994
ADJUSTABLE ELECTRICAL RESISTORS

Marlan E. Bourns and Wilbur T. Hardison, Riverside, and Edward D. O'Brian, Anaheim, Calif.; said Hardison and O'Brian assignors to Bourns Inc., a corporation of California

Original application Sept. 1, 1955, Ser. No. 531,956, now Patent No. 2,935,715, dated May 3, 1960. Divided and this application Mar. 4, 1960, Ser. No. 12,773
9 Claims. (Cl. 338—180)

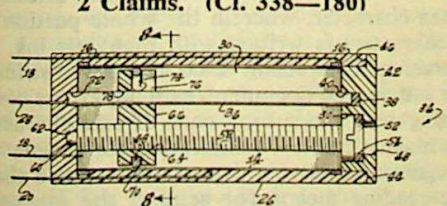


1. A variable resistor comprising a housing having a base, relatively flat sidewalls diverging outwardly and upwardly at an angle from said base, and end closures, said base, sidewalls and end closures being formed from a single piece of metal sheet, a nonconductive support member positioned upon said base in the housing and extending externally of said housing past one of said end closures, a slider having relatively flat sloping sidewalls diverging at the same angle as and engaging said housing sidewalls, contact means operatively connected to said slider, elongate resistor means mounted on said support within said housing, elongate conductor means mounted on said support within said housing, means for moving said slider for variably connecting said elongate resistor means and elongate conductor means by said contact means, terminals mounted on the part of said support which is outside of said housing, and means for connecting said terminals to said resistor means and conductor means.

2,999,995
MECHANICALLY VARIABLE RESISTOR

Marlan E. Bourns and Carl N. Boode, Riverside, and Edward D. O'Brian, Anaheim, Calif.; said Boode and said O'Brian assignors to Bourns, Inc.

Filed May 20, 1957, Ser. No. 660,246
2 Claims. (Cl. 338—180)

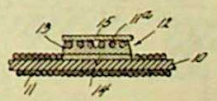


1. A variable resistor comprising a tubular housing of dielectric material, said housing being closed at one end by an end wall and having a cap at the other end thereof, said housing, end wall and cap defining a cavity and said end wall having a bearing-hole therein, a resistance element mounted on the inner surface of said housing within said cavity, a rotatable leadscrew having a threaded portion disposed in said cavity parallel to said resistance element, said leadscrew having a smooth unthreaded bearing portion of reduced diameter at one end thereof which bearing portion is journaled within said bearing hole in said end wall, an outwardly facing annular shoulder on said leadscrew adjacent said bearing portion, said shoulder bearing against said end wall around the margins of said bearing hole to limit endwise movement of the leadscrew in that direction, the other end of said leadscrew terminating in a head having a driver-engageable portion, said head being disposed within a cylindrical aperture in said cap, said cap having an inwardly projecting tubular flange encircling the marginal edge of said leadscrew head, the driver-engagement portion of said head being accessible through the aperture defined by said inwardly projecting flange, an elastomeric O-ring seated within said aperture between said inwardly turned flange and said head, said O-ring being compressed slightly so as to seal the clearances between the leadscrew and said housing, and resiliently exerting endwise pressure against the end of said leadscrew so as to hold said annular shoulder against said end wall, a guide rod extending through said cavity parallel to said leadscrew, a slider movable lengthwise of said cavity and having a contact thereon wiping on said resistance element, said slider being operatively engaged by the thread of said leadscrew and movable thereby when the leadscrew is turned, said slider slidably engaging said guide rod so as to be prevented thereby from turning, and terminal means electrically connected to said resistance element and to said contact.

2,999,996
WIRE WOUND RESISTOR TERMINAL CAP

Louis W. Berni, East Boston, Mass., assignor to Ace Electronics Associates, Inc., a corporation of Massachusetts

Filed Jan. 16, 1961, Ser. No. 83,109
8 Claims. (Cl. 338—329)



1. A connection terminal assembly for a wire wound resistor of the type having an insulating base and a wire resistance element wound thereon, comprising a first plate element interposed between a plurality of turns of said wound resistance element and said base, said first plate element being in surface contact with said insulating base and including a body of high temperature solder in contact with said wire resistance element, a second plate element overlying said plurality of turns of said resistance element sandwiching said plurality of turns between said two plate elements, said second plate element including a material in direct contact with said resistance element which is similar in composition and melting point to said resistance element, said elements being welded together and said wire resistance element being embedded in said solder of said first plate element.

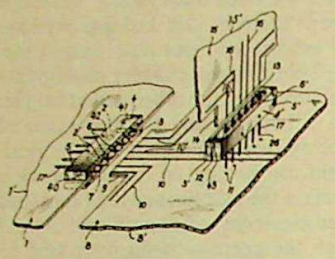
2,999,997
ELECTRICAL SOCKET FOR PRINTED CIRCUIT CARDS

Ulrich Tuchel, Bismarckstr. 107, Heilbronn (Neckar), Germany

Filed Apr. 22, 1958, Ser. No. 730,074
Claims priority, application Germany Dec. 19, 1957
7 Claims. (Cl. 339—17)

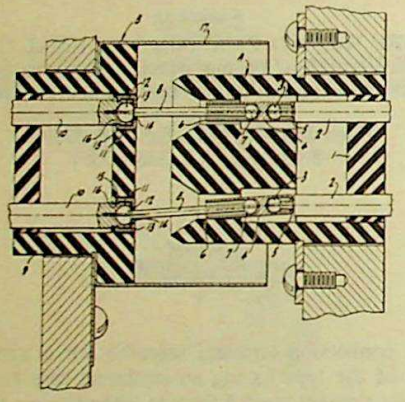
4. A female socket for receiving a printed circuit panel having a plurality of individual printed circuits compris-

ing a panel having a substantially rectangular cutout portion adapted to receive a projected portion of the printed circuit panel, socket wall means of insulation material extending around the marginal edge of the cutout portion and overlying each side of the cutout portion and



defining a socket receptacle surrounding the cutout portion, a plurality of individual contact members spaced along the cutout portion held at one end in said socket wall means and extending toward the cutout area for effecting contact with the individual circuits of the printed circuit panel when the latter is inserted therein.

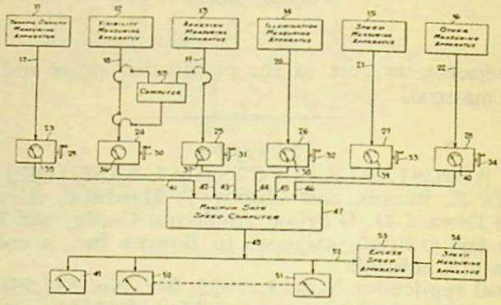
2,999,998
SELF-ALIGNING ELECTRICAL CONNECTOR ASSEMBLY
Fred H. Cole, 1028 Sierra Bonita, Los Angeles 19, Calif.
Filed Sept. 22, 1958, Ser. No. 762,532
4 Claims. (Cl. 339—64)



1. An electrical connector assembly consisting of a first part having a terminal pin rigidly connected thereto, a connector sleeve contacting said terminal pin for limited universal movement at one end and having an expansible opening at the other end; a second part having an expansible receptacle terminal rigidly connected thereto; and a solid connector pin having end terminals with substantially spherical surfaces, said end terminals respectively mating with said opening and said receptacle terminal, thereby providing a solid pin terminal connection that will adjust for misalignments without imposing abnormal contact pressures upon contact surfaces.

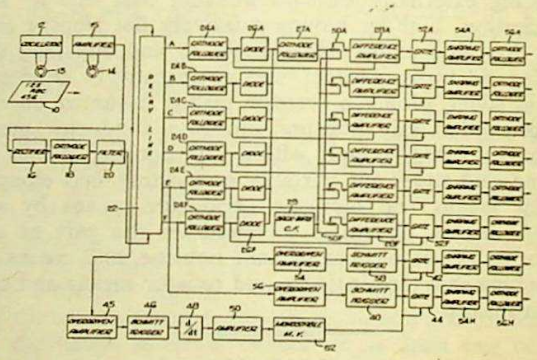
2,999,999
HIGHWAY TRAFFIC CONTROL SYSTEM
Everhard H. B. Bartelink, P.O. Box 425, Concord, N.H.
Filed Feb. 8, 1955, Ser. No. 486,873
11 Claims. (Cl. 340—31)

1. A traffic control system comprising means for measuring the number of vehicles in a predetermined section of a highway, means for measuring the visibility in such section, means for measuring the illumination in said section, means for measuring the adhesion between the wheels of a vehicle and the surface of said section, means for measuring the speeds of vehicles in said section, means connected to said speed measuring means for determining the speed of the slowest vehicle in said section, means connected to each of said measuring means and controlled thereby for computing the predetermined maximum safe speed in said section under the conditions as measured by said measuring means, indicating means



connected to the output of said computing means and controlled thereby for indicating said speed, and excess speed indicating means connected to said speed measuring means and to the output of said computing means for comparing the speeds of vehicles in said section with the computed maximum safe speed and for indicating the presence of a vehicle having a speed in excess of said maximum safe speed.

3,000,000
AUTOMATIC READING SYSTEM
Kenneth R. Eldredge, Palo Alto, Calif., assignor, by mesne assignments, to General Electric Company, New York, N.Y., a corporation of New York
Filed May 6, 1955, Ser. No. 506,598
21 Claims. (Cl. 340—149)

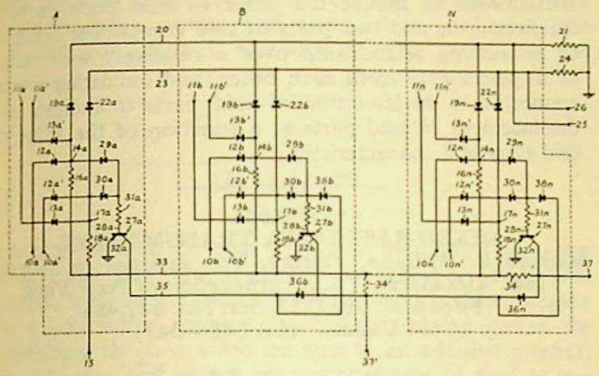


3. Apparatus for recognizing each of a plurality of different characters written on a document in magnetic ink in form adapted to be recognized by the human eye in accordance with the respective shapes and orientations of the written character, wherein the whole portion of each of said characters is written with magnetic ink, each of said characters comprising a continuous distribution of magnetic ink on said document, said apparatus comprising magnetizing means to subject each of said characters to a common magnetic field configuration for magnetizing the entire magnetic ink distribution of each of said characters, magnetic reading means for sensing the magnetic field configuration of each of said characters and in response to said field configuration for delivering an output representative thereof, and identification means responsive to said output for providing a corresponding one of a plurality of signal patterns representative of the character sensed by said reading means.

3,000,001
PARALLEL BINARY COMPARATOR CIRCUIT

Robert M. Brink, New Canaan, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 21, 1957, Ser. No. 691,470
10 Claims. (Cl. 340—149)

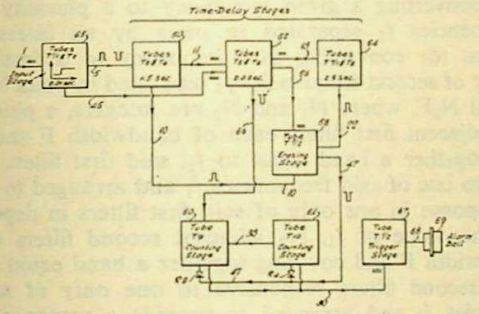


1. Apparatus for comparing two binary numbers in parallel representation digit by digit comprising a comparing circuit for each pair of corresponding digits to be compared including at least one AND gate responsive to entry of signals representing unequal digits to provide an output indicating the inequality, and transistor means responsive to the operation of the gate adapted to disable the circuits for comparing subsequent corresponding digits.

3,000,002
ELECTRONIC ALARM SYSTEM

Jens Peter Rehahn, Berlin, Germany, assignor to VEB Funkwerk Köpenick, Berlin, Germany

Filed Feb. 29, 1956, Ser. No. 568,662
1 Claim. (Cl. 340—164)

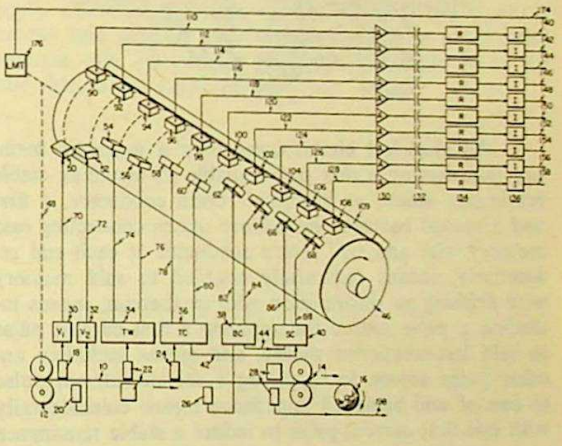


An automatic alarm producing circuit which releases an alarm upon the reception of three successive signals each having a duration between values *a* and *b* separated by intervals of lengths between *c* and *d*; comprising an input stage responsive to a signal of predetermined minimum strength to assume an operative condition and which, after termination of said signal, returns to an inoperative condition with a delay equal to *c* following the termination of said signal; a first electronic relay means including a monostable multivibrator having a time delay *d* and connected to said input stage so as to be triggered immediately in response to an electrical signal received from said input stage; a second electronic relay means including monostable multivibrator having a time delay of *a* minus *d*; coupling means connecting said last multivibrator to said first relay means and said input stage, said second relay means being responsive to an electrical signal received from said first relay means when the latter is in its initial condition and a signal from said input stage when the latter is in said operative condition; a third electronic relay means connected to said second relay means so that said third relay means assumes its operative condition with a time delay of *b* minus *a* after said second relay means has been triggered; means connecting said first relay means to said input stage for triggering said first relay means at the termination of said signal; counting means connected to said second relay means for registering a count each time said second relay means returns to its initial condition; erasing means connected with said first and third relay means, and responsive to output impulses of said first and third relay means produced at the termination of said signal, for erasing impulses which have been registered by said counting means, provided that said second relay means is in its initial condition; and means for releasing an alarm when said counting means has registered three impulses.

3,000,003
PRODUCT ANALYSIS

Robert P. Einsel, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

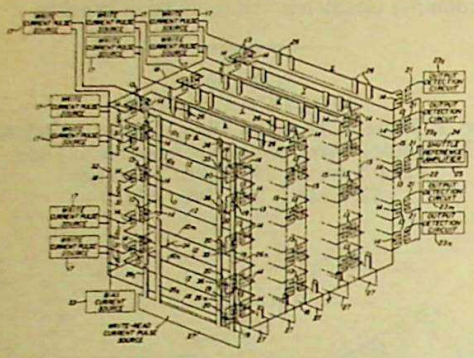
Filed Nov. 25, 1957, Ser. No. 698,867
12 Claims. (Cl. 340—172.5)



1. Electronic apparatus for classifying items of a material product into a plurality of categories determined by arbitrarily chosen combinations of properties possible of occurrence in a given item, comprising a plurality of signal lines, at least one such line corresponding to each property in said combinations, means for testing an item for each property in said combinations; said testing means including a plurality of means for generating electrical signals upon the occurrence of each property in said item, at least one of said signal generating means including means for measuring a physical characteristic of said product, means associated with said measuring means for generating a voltage analog of variations in said measured characteristic, and means for generating a signal whenever said voltage analog varies beyond selected limits; means for routing each of said signals onto the signal line corresponding to that property being tested when said signal is generated; a first plurality of gates, one such gate corresponding to each of said signal lines, each gate having a trigger input terminal, a control input terminal connected to its corresponding signal line, and an output controlled by the presence of signals on both said input terminals simultaneously; means for generating a signal simultaneously applied to all said trigger input terminals when all tested properties of an item have been tested, groups of said gate outputs, each group including the outputs of those gates connected to signal lines corresponding to properties in one of said combinations; a second plurality of gates, each gate of said second plurality thereof corresponding to one of said groups and having a connection to each output in said group, for propagating a signal received on any of said connections, and a plurality of indicating means,

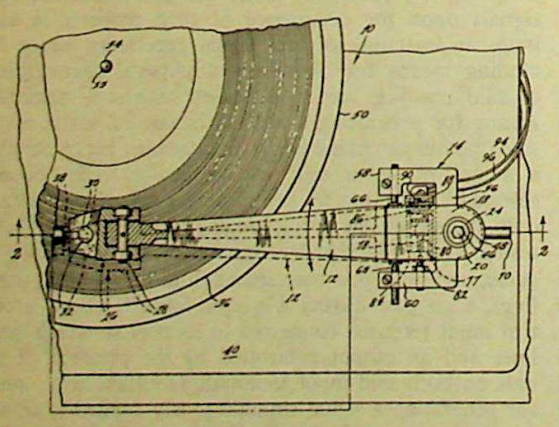
each corresponding to one gate of said second plurality of gates and each responsive to said propagated signals from its respective gate for indicating the category of an item in accordance with a specific combination of properties therein.

3,000,004
MAGNETIC MEMORY ARRAY
David C. Weller, Lake Mohawk, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 4, 1959, Ser. No. 791,230
23 Claims. (Cl. 340—174)



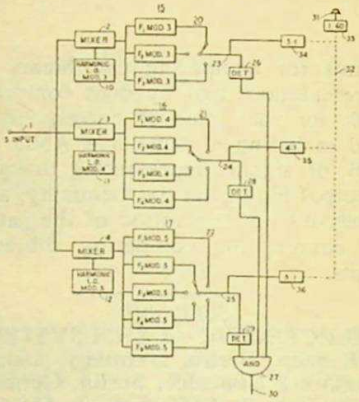
1. An electrical circuit comprising a magentic memory wire having a flux path capable of assuming stable remanence states, an electrical return conductor, a first and a second balanced impedance means connecting said memory wire and said return conductor at each end respectively, means inductively coupled to said memory wire defining an information address thereon, means including a pulse source for applying a first current pulse to said last-mentioned means, and means including another pulse source for applying a second current pulse to one of said balanced impedance means coincidentally with said first current pulse to induce a stable remanence state at said information address.

3,000,005
OFF-CENTER INDICATOR
Robert C. Moyer, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 29, 1957, Ser. No. 693,160
2 Claims. (Cl. 340—282)



1. An off-center indicator for indicating the eccentricity of a recording spiral on a disc recording, said indicator comprising a tone arm, a follower arm, a shaft, means pivoting said tone arm and said follower arm independently for rotation about said shaft, a stop fixed to said follower arm and adapted to touch said tone arm whereby said tone arm will push said follower arm when said tone arm is moved in one direction, means for rotating said disc recording, tracking means fixed to said tone arm and engageable in said recording spiral for moving said tone arm when said recording is rotating, an electrical component comprising at least two interacting parts and having an electrical characteristic whose value is a function of the displacement between said two parts, means to mount one of said parts on said tone arm, means to mount the other of said parts on said follower arm, said two parts of said component being in an interacting relationship over a relatively wide range of displacements from each other, and indicating means connected to at least one of said parts to indicate the displacement of said parts as a function of the value of said electrical characteristic.

3,000,006
MIXED-BASE DATA TRANSMISSION
Richard E. Williams, Fairfax, Va., assignor to Melpar, Inc., Alexandria, Va., a corporation of New York
Filed Mar. 20, 1957, Ser. No. 647,424
31 Claims. (Cl. 340—347)

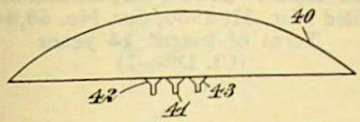


1. In a system for converting signal amplitude to frequency, a mixed base filter arrangement comprising means for converting a given frequency to a plurality of first frequencies f_1 separated in pairs by an interval N_1F means for converting said frequency to a further plurality of second frequencies f_2 separated in pairs by an interval N_2F, where N_1 and N_2 are integers, a plurality of N_1 adjacent first filters each of bandwidth F and covering together a band equal to f_1, said first filters responsive to one of said frequencies f_1 and arranged to provide a response in one only of said first filters in dependence on the value of f_1, N_2 adjacent second filters each of bandwidth F and covering together a band equal to N_2F, said second filters responsive to one only of said frequencies f_2 and arranged to provide a response in one only of said second filters in dependence on the value of f_2, and means for selecting one of said first filters and one of said second filters in response to said signal amplitude, whereby the combination of the selected first and second filter represents uniquely said signal amplitude.

3,000,007
RADAR SYSTEMS
Reginald Frederick Hansford and Eric Parker, London, England, assignors to The Decca Record Company Limited, London, England, a British company
Filed Apr. 30, 1956, Ser. No. 581,540
Claims priority, application Great Britain May 2, 1955
11 Claims. (Cl. 343—5)

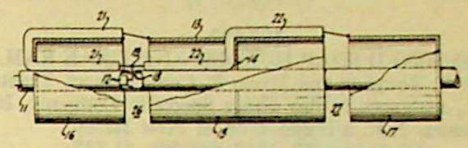
1. A radar system comprising a transmitter, a directional transmitting antenna system, a main directional receiving antenna system consisting of a focussing device and an associated receptor element at the focal point of said focussing device for picking up received signals brought to the focal point by said focussing device, said main directional receiving antenna system being arranged to provide a directional receiving beam having

its beam axis directed in the same direction as the transmitting beam axis, an auxiliary directional receiving antenna system comprising a focussing device and a separate receptor element and arranged to provide a directional receiving beam directed at an angle off-set from the main beam in a direction where signals picked up by the main antenna system are to be reduced, a first receiver coupled to the receptor element of said main receiving system and arranged to produce a first rectified video output, a second receiver coupled to the



receptor element of said auxiliary directional receiving system and arranged to produce a second rectified video output, first means for combining the two video outputs in a subtractive manner, second combining means for combining the two video outputs in an additive manner, an indicator and switch means operative to feed to the indicator from said first combining means video signals from below a predetermined range and operative to feed to the indicator from said second combining means signals from targets beyond said predetermined range.

3,000,008
SHIELDED ANTENNA
Sidney Pickles, P.O. Box 530, Colusa, Calif.
Filed June 22, 1960, Ser. No. 37,949
9 Claims. (Cl. 343—792)

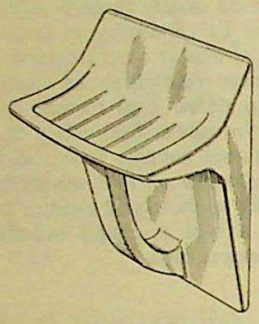


5. An improved antenna comprising a half-wave radiator divided into two open-ended quarter-wave cavities by a central transverse metallic diaphragm, a metallic support tube disposed axially through said radiator and mounting the latter by connection to said diaphragm, a pair of metallic end shields mounted upon said support tube in closely spaced relation to the open ends of said radiator cavities to define gaps thereat, and energizing means including two coaxial feed cables of equal length extending through said support tube and therefrom to apply excitation voltages of like amplitude and phase across said gaps for exciting said radiator to radiate and exciting said end shields to cancel radiation from the end shields and support tube.

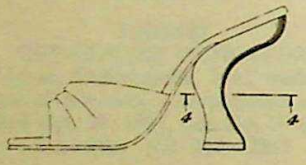
DESIGNS

SEPTEMBER 12, 1961

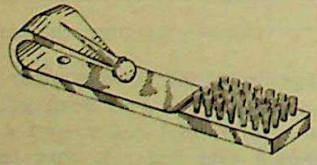
191,297
COMBINED SOAP HOLDER AND GRAB RAIL
Joseph P. Boughey and Julues P. Compagnucci, Trenton, N.J., assignors to Bay Ridge Specialty Company, Inc., Trenton, N.J., a corporation of New Jersey
Filed Aug. 12, 1960, Ser. No. 61,727
Term of patent 14 years
(Cl. D4—3)



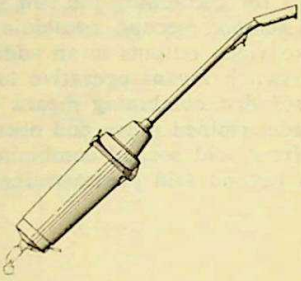
191,298
HEEL FOR SHOE OR SIMILAR ARTICLE
Jules Fern, Los Angeles, Calif., assignor to Fern Shoe Company, Los Angeles, Calif., a corporation of California
Filed Sept. 6, 1960, Ser. No. 62,030
Term of patent 3½ years
(Cl. D7—5)



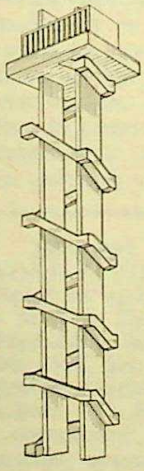
191,299
BRUSH FOR GOLFING ACCESSORIES OR THE LIKE
Andrew J. Beban, 56 W. York St., and George Beban, 562 Van Everett St., both of Akron, Ohio
Filed Mar. 7, 1960, Ser. No. 59,657
Term of patent 3½ years
(Cl. D9—2)



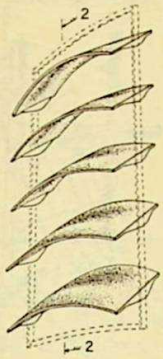
191,300
COMBINED CLEANER AND DRIER FOR FLOORS OR THE LIKE
Howard A. Anderson, Pittsburgh, Pa., assignor to Bissell Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Mar. 31, 1960, Ser. No. 60,049
Term of patent 14 years
(Cl. D9—2)



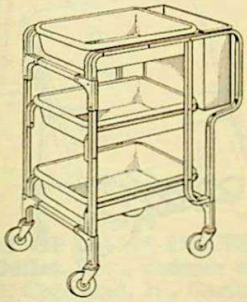
191,301
OBSERVATION TOWER OR SIMILAR ARTICLE
John K. Groseclose, Columbus, Ohio, assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Mar. 2, 1961, Ser. No. 64,116
Term of patent 14 years
(Cl. D13—1)



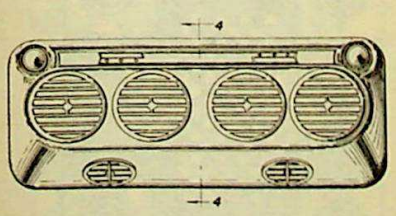
191,302
CURVED JALOUSIE WINDOW
Phillip Graham, 2825 Glenmore Ave., Pittsburgh, Pa.
Filed Mar. 12, 1959, Ser. No. 54,956
Term of patent 14 years
(Cl. D13—1)



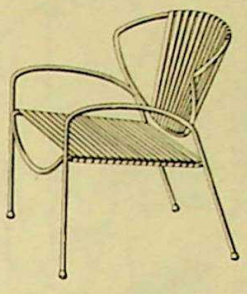
191,303
CART FOR CARRYING DISHES OR THE LIKE
Philip Tashman, 4800 Ronda, Coral Gables, Fla.
Filed Dec. 6, 1960, Ser. No. 63,125
Term of patent 3½ years
(Cl. D14—3)



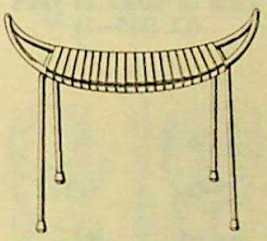
191,304
AUTOMOBILE AIR CONDITIONING CASE
William E. Lind, 1401 Foch St., Fort Worth, Tex.
Filed Dec. 5, 1960, Ser. No. 63,108
Term of patent 3½ years
(Cl. D14—6)



191,305
CHAIR
John A. Grosskopf, North Miami, Fla., assignor to Scroll, Inc., Miami, Fla., a corporation of Florida
Filed Jan. 5, 1961, Ser. No. 63,460
Term of patent 3½ years
(Cl. D15—1)

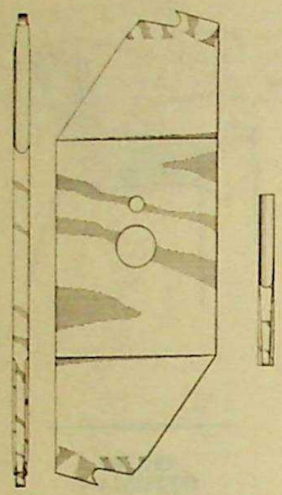


191,306
OTTOMAN
John A. Grosskopf, North Miami, Fla., assignor to Scroll, Inc., Miami, Fla., a corporation of Florida
Filed Jan. 5, 1961, Ser. No. 63,461
Term of patent 3½ years
(Cl. D15—8)

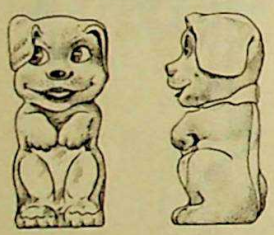


191,307
HOSE SUPPORTER
Georges Magnin, Daniel Jeanrichard 21, La Chaux-de-Fonds, Switzerland, and Jean Grimm, La Chaux-de-Fonds, Switzerland; said Grimm assignor to said Magnin
Filed Jan. 30, 1961, Ser. No. 63,752
Term of patent 14 years
(Cl. D17—8)

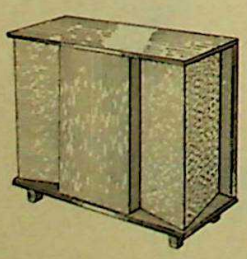
191,308
SPLITTER KNIFE
Edward M. Key, P.O. Box 292, McMinnville, Oreg.
Filed June 3, 1960, Ser. No. 60,836
Term of patent 14 years
(Cl. D22—3)



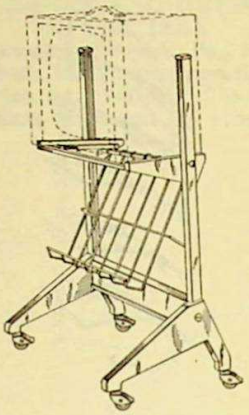
191,309
CHILD'S TOILET TRAINING FIGURE
Frances Bales Hill, 6100 Yolanda Drive, Fort Worth, Tex.
Filed May 11, 1960, Ser. No. 60,545
Term of patent 14 years
(Cl. D25—1)



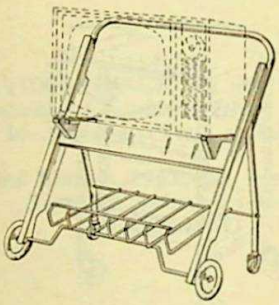
191,310
LOUD SPEAKER CABINET
Antonio Joseph Petruccelli, Mount Tabor, N.J., assignor to Radio Frequency Laboratories, Inc., Boonton, N.J., a corporation of New Jersey
Filed June 27, 1960, Ser. No. 61,132
Term of patent 3½ years
(Cl. D26—14)



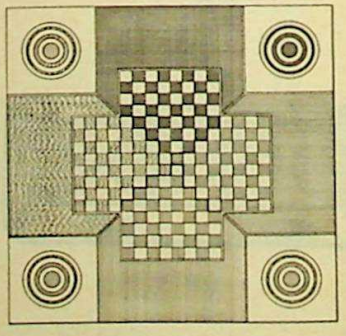
191,311
COMBINED STAND AND SHELF FOR TELEVISION RECEIVERS
Walter Gusdorf, 8706 Florence, Brentwood, Mo.
Filed July 5, 1960, Ser. No. 61,205
Term of patent 3½ years
(Cl. D33—14)



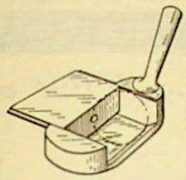
191,312
COMBINED CART AND SHELF FOR TELEVISION RECEIVERS
Walter Gusdorf, 8706 Florence, Brentwood, Mo.
Filed July 5, 1960, Ser. No. 61,225
Term of patent 3½ years
(Cl. D33—14)



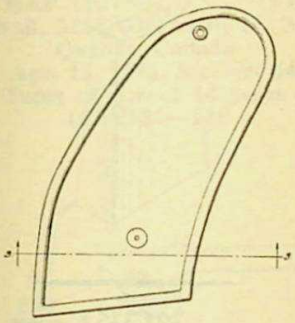
191,313
GAME BOARD
William J. Brozovich, 10529 Buford Ave., Inglewood, Calif.
Filed Oct. 18, 1960, Ser. No. 62,535
Term of patent 3½ years
(Cl. D34—5)



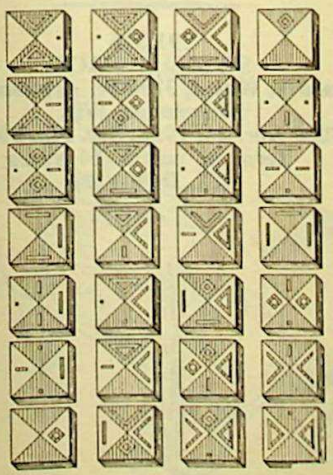
191,314
GOLF BALL RETRIEVING DEVICE
Harold J. Mengel, 626 Alton Ave., Reading, Pa.
Filed Apr. 20, 1961, Ser. No. 64,831
Term of patent 14 years
(Cl. D34—5)



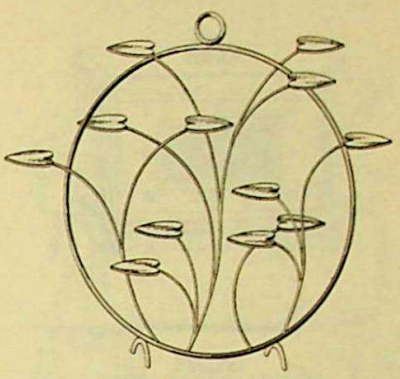
191,315
COVER FOR GOLF CLUB IRONS
Peter J. Damiani, 5835 N. Whipple St., Chicago, Ill., and Samuel G. Rita, 4024 W. Morse, Ave., Lincolnwood, Ill.
Filed May 2, 1960, Ser. No. 60,420
Term of patent 7 years
(Cl. D34—5)



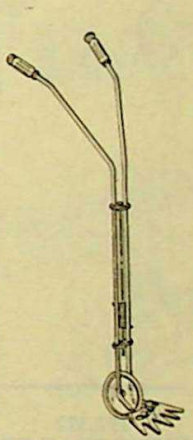
191,316
SET OF GAME PIECES
Virgil T. Calfee, Dallas, Tex., assignor of one percent to Thomas D. Copeland, Jr., Garland, Tex.
Filed Nov. 18, 1959, Ser. No. 58,380
Term of patent 7 years
(Cl. D34—5)



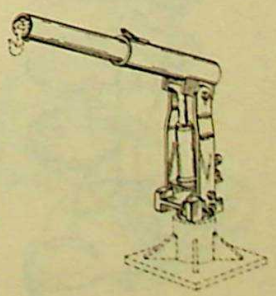
191,317
STAND FOR FLOWER POTS
August Rohrmuller, 198—40 32nd Ave., Bayside, N.Y.
Filed June 20, 1960, Ser. No. 61,045
Term of patent 7 years
(Cl. D35—3)



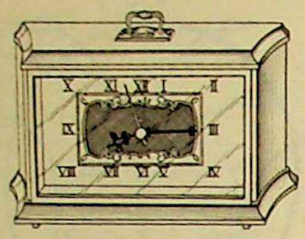
191,318
LAWN CLIPPER
Herbert D. Berkson, 11 Pemberton Square, Boston, Mass., assignor of one-half to Robert F. Muse, Brookline, Mass.
Filed Oct. 26, 1959, Ser. No. 58,050
Term of patent 14 years
(Cl. D40—1)



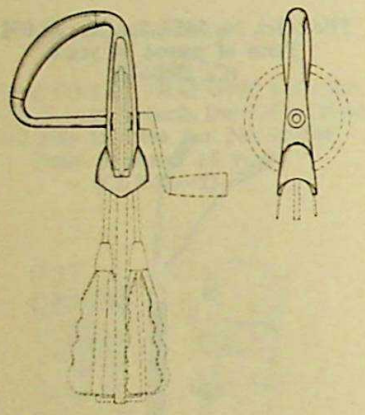
191,319
PORTABLE HYDRAULIC HOIST
Robert A. Singletary, Box 811, Cortez, Colo.
Filed Jan. 4, 1960, Ser. No. 58,925
Term of patent 3½ years
(Cl. D41—1)



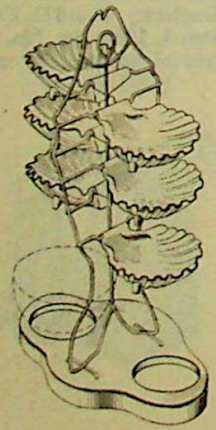
191,320
CLOCK
Joseph Palma, Jr., Wheaton, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 14, 1960, Ser. No. 62,829
Term of patent 14 years
(Cl. D42—7)



191,321
CULINARY BEATER
Richard S. Latham, Chicago, Ill., assignor, by mesne assignments, to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 8, 1960, Ser. No. 58,977
Term of patent 14 years
(Cl. D44—1)

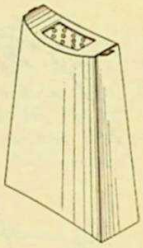


191,322
SNACK SERVING TRAY OR THE LIKE
Robert Karoff, 222 4th Ave., New York, N.Y.
Filed July 23, 1959, Ser. No. 56,891
Term of patent 3½ years
(Cl. D44—10)

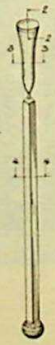


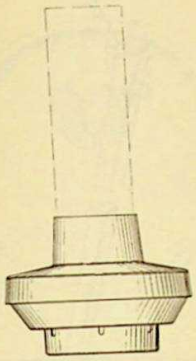
191,323
BREAD TRAY
William Wistar Robinson, Forest Hills, N.Y., assignor to Arnold Bakers, Inc., Port Chester, N.Y., a corporation of New York
Filed Nov. 29, 1960, Ser. No. 63,018
Term of patent 3½ years
(Cl. D44—10)

191,324
CONDIMENT DISPENSER
Richard M. Watts, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Nov. 15, 1960, Ser. No. 62,852
Term of patent 14 years
(Cl. D44—22)

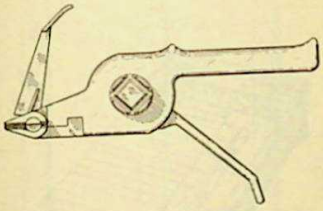


191,325
HANDLE FOR CULINARY IMPLEMENTS OR SIMILAR ARTICLES
James L. Hvale, Chicago, Ill., assignor to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 22, 1960, Ser. No. 62,933
Term of patent 14 years
(Cl. D44—29)

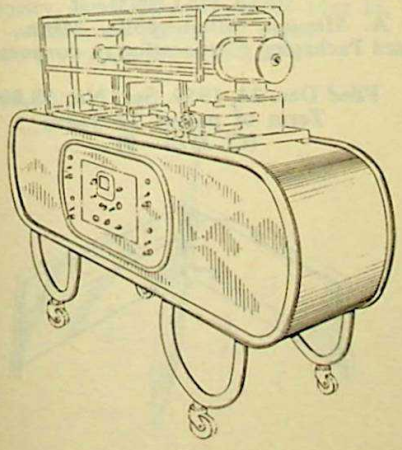
191,326
SWIZZLE STICK
Howard T. Wheat, 3138 N. Argonne Drive, Milwaukee, Wis.
Filed Apr. 24, 1958, Ser. No. 50,596
Term of patent 14 years
(Cl. D44—29)

191,327
TABLE LAMP BASE
William Johnston, Lombard, and Herman Gittleson and Jules J. Gittleson, Chicago, Ill., assignors to Decor Glo Industries, Inc., Chicago, Ill,
Filed Feb. 16, 1961, Ser. No. 63,960
Term of patent 14 years
(Cl. D48—20)



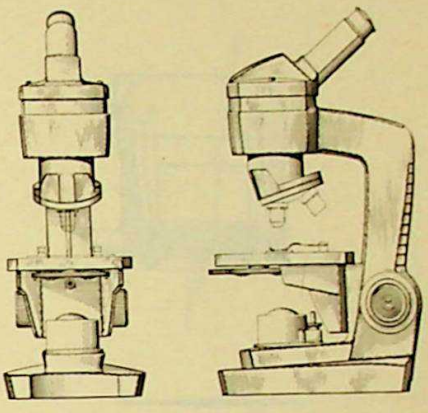
191,328
STRAP TENSIONING TOOL
Omer Salvail, 2288A Chambly St., Montreal, Quebec, Canada
Filed Apr. 13, 1961, Ser. No. 64,718
Term of patent 14 years
(Cl. D54—13)



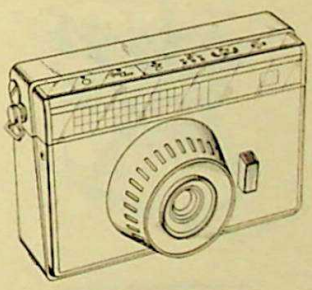
191,329
ELECTRIC METALLURGICAL PROCESSING UNIT
Steven Hurwitt, 310 West End Ave., New York, N.Y.
Filed June 8, 1959, Ser. No. 56,249
Term of patent 3½ years
(Cl. D55—1)



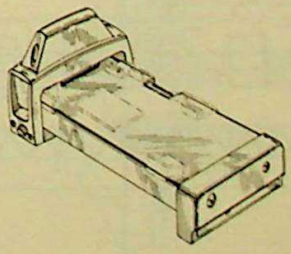
191,330
MICROSCOPE
John T. Armbruster, Niagara Falls, N.Y., assignor to American Optical Company, Southbridge, Mass.
Filed May 19, 1961, Ser. No. 65,242
Term of patent 14 years
(Cl. D57—1)



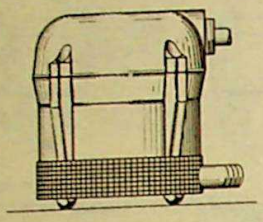
191,331
PHOTOGRAPHIC CAMERA
Walter Hennig and Manfred Claus, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden, Dresden, Germany
Filed Jan. 12, 1961, Ser. No. 63,554
Term of patent 14 years
(Cl. D61—1)



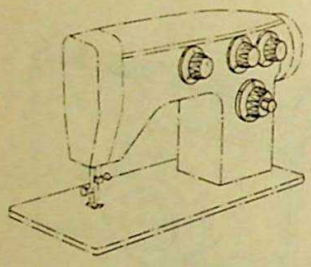
191,332
PRINTING MACHINE
John A. Maul, Lyndhurst, and Roy P. Hess, Westlake, Ohio, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Feb. 10, 1960, Ser. No. 59,339
Term of patent 14 years
(Cl. D64—11)



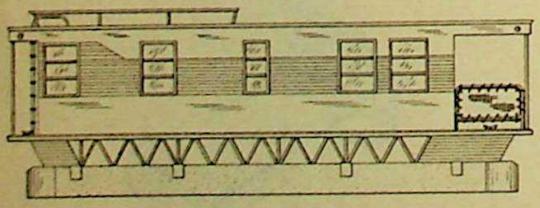
191,333
MINIATURE RECIRCULATING PUMP FOR DISPLAYS AND THE LIKE
Damon B. Johnson and Charles B. Faison, Oklahoma City, Okla., assignors to Little Giant Corporation, Oklahoma City, Okla., a corporation of Oklahoma
Filed June 30, 1960, Ser. No. 61,176
Term of patent 14 years
(Cl. D65—1)



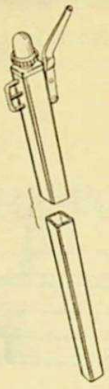
191,334
SEWING MACHINE OR SIMILAR ARTICLE
Sidney J. Hamlett, Parma, Ohio, assignor to White Sewing Machine Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,338
Term of patent 14 years
(Cl. D70—2)



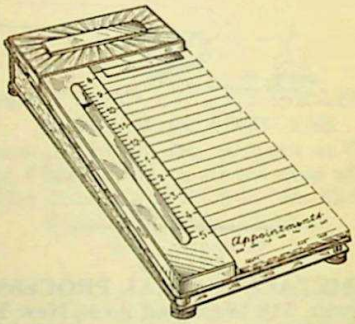
191,335
HOUSE BOAT OR SIMILAR ARTICLE
George W. Meek, Fort Myers, Fla., assignor to General Panel Corporation, Fort Myers, Fla., a corporation of New York
Filed June 10, 1960, Ser. No. 60,911
Term of patent 7 years
(Cl. D71—1)



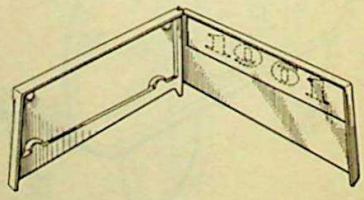
191,336
COMBINED SIGNAL LIGHT AND TOW HITCH FOR BOATS
Andrew George Griparis, 1000 Westminster Road, Joliet, Ill.
Filed Aug. 18, 1960, Ser. No. 61,808
Term of patent 14 years
(Cl. D71—1)



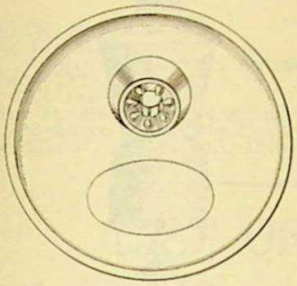
191,337
COMBINED CLOCK AND MEMO PAD HOLDER
Samuel Jack Kaufman, 1016 5th Ave., New York, N.Y.
Filed July 10, 1959, Ser. No. 56,735
Claims priority, application Switzerland Apr. 25, 1959
Term of patent 14 years
(Cl. D74—1)



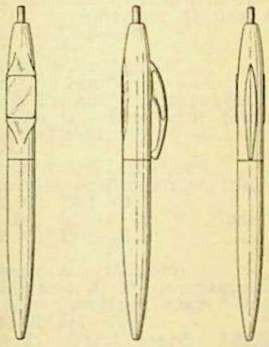
191,338
DESK CALENDAR
Wallace A. Monson, Minneapolis, Minn., assignor to Standard Packaging Corporation, a corporation of Virginia
Filed Dec. 24, 1959, Ser. No. 58,807
Term of patent 14 years
(Cl. D74—5)



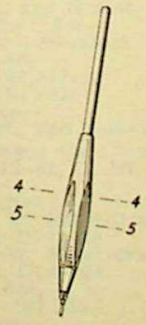
191,339
DESK BASE FOR A WRITING INSTRUMENT
Robert H. Hose, Mountain Side, N.J., and Harold E. Steinberg, Philadelphia, Pa., assignors to The Esterbrook Pen Company, Camden, N.J., a corporation of New Jersey
Filed Sept. 12, 1960, Ser. No. 62,105
Term of patent 14 years
(Cl. D74—5)



191,340
PEN
Jack Hillel Shaw, London, England, assignor to Penparts Limited, London, England
Filed Oct. 27, 1960, Ser. No. 62,637
Claims priority, application Great Britain June 23, 1960
Term of patent 3½ years
(Cl. D74—17)

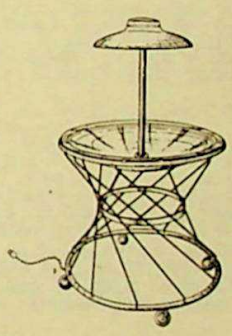


191,341
MECHANICAL PENCIL
Günter Fuchs, Schwarzenbach (Saale), Germany, assignor to A. W. Faber-Castell, Stein, near Nurnberg, Germany
Filed Nov. 10, 1958, Ser. No. 53,330
Claims priority, application Germany May 10, 1958
Term of patent 14 years
(Cl. D74—24)

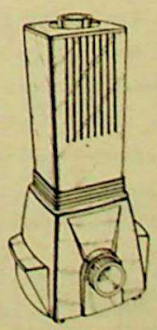


191,342
MECHANICAL PENCIL
Günter Fuchs, Schwarzenbach (Saale), Germany, assignor to A. W. Faber-Castell, Stein, near Nurnberg, Germany
Filed Nov. 10, 1958, Ser. No. 53,331
Claims priority, application Germany May 10, 1958
Term of patent 14 years
(Cl. D74—24)

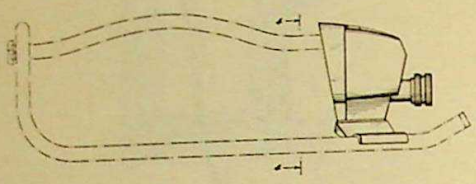
191,343
COMBINED COOLER AND DISPLAY STAND
Frederick A. Kell, 2373 Fair Acres Road, St. Louis County, Mo.
Filed May 12, 1959, Ser. No. 55,884
Term of patent 14 years
(Cl. D80—11)



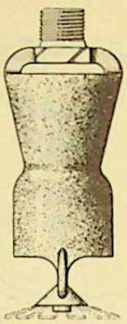
191,344
BLENDER
Donald E. Leman, Chicago, and Robert O. Ernest, Oak Park, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 12, 1960, Ser. No. 62,456
Term of patent 14 years
(Cl. D89—1)



191,345
LAWN SPRINKLER
John D. Beinert, Babylon, N.Y., assignor to Melnor Industries, Inc., Carol Place, Moonachie, N.J., a corporation of New York
Filed July 21, 1960, Ser. No. 61,453
Term of patent 7 years
(Cl. D91—1)



191,346
SPRINKLER FOR EXTINGUISHING FIRES
Eric P. Hanson, North Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 62,583
Term of patent 14 years
(Cl. D91—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 12TH DAY OF SEPTEMBER, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Akron Brass Mfg. Co., Inc. : *See*—
Brazier, Jack H. Re. 25,037.

Alford, Andrew. A periodic directive antenna. Re. 25,035, 9–12–61, Cl. 343—732.

Allin, George S., Jr. : *See*—
Donner, Verne P., Henning, and Allin. Re. 25,036.

Brazier, Jack H., to Akron Brass Mfg. Co., Inc. Bypass proportioner. Re. 25,037, 9–12–61, Cl. 137—599.1.

Donner, Verne P., W. W. Henning, and G. S. Allin, Jr., to International Harvester Co. Fluid power steering system. Re. 25,036, 9–12–61, Cl. 180—79.2.

Henning, William W. : *See*—
Donner, Verne P., Henning, and Allin. Re. 25,036.

International Harvester Co. : *See*—
Donner, Verne P., Henning, and Allin. Re. 25,036.

LIST OF PLANT PATENTEES

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,090, 9–12–61, Cl. 47—61.

Conard-Pyle Co., The : *See*—
Dot, Pedro. 2,091.

Dot, Pedro, to The Conard-Pyle Co. Rose plant. 2,091, 9–12–61, Cl. 47—61.

Great Western Rose Co., Inc. : *See*—
Perry, Anthony. 2,089.

Jackson & Perkins Co. : *See*—
Boerner, Eugene S. 2,090.

Perry, Anthony, to Great Western Rose Co., Inc. Rose plant. 2,089, 9–12–61, Cl. 47—61.

LIST OF DESIGN PATENTEES

Addressograph-Multigraph Corp. : *See*—
Maul, John A., and Hess. 191,332.

American Optical Co. : *See*—
Armbruster, John T. 191,330.

Anderson, Howard A., to Bissell Inc. Combined cleaner and drier for floors or the like. 191,300, 9–12–61, Cl. D9—2.

Armbruster, John T., to American Optical Co. Microscope. 191,330, 9–12–61, Cl. D57—1.

Arnold Bakers, Inc. : *See*—
Robinson, William W. 191,323.

Bay Ridge Specialty Co., Inc. : *See*—
Boughey, Joseph P., and Compagnucci. 191,297.

Beban, Andrew J. and G. Brush for golfing accessories or the like. 191,299, 9–12–61, Cl. D9—2.

Beban, George : *See*—
Beban, Andrew J. and G. 191,299.

Beinert, John D., to Melnor Industries, Inc. Lawn sprinkler. 191,345, 9–12–61, Cl. D91—1.

Berkson, Herbert D., ½ to R. F. Muse. Lawn clipper. 191,318, 9–12–61, Cl. D40—1.

Bissell Inc. : *See*—
Anderson, Howard A. 191,300.

Boughey, Joseph P., and J. P. Compagnucci, to Bay Ridge Specialty Co., Inc. Combined soap holder and grab rail. 191,297, 9–12–61, Cl. D4—3.

Brozovich, William J. Game board. 191,313, 9–12–61, Cl. D34—5.

Calfee, Virgil T., 1% to T. D. Copeland, Jr. Set of game pieces. 191,316, 9–12–61, Cl. D34—5.

Claus, Manfred : *See*—
Hennig, Walter, and Claus. 191,331.

Compagnucci, Julues P. : *See*—
Boughey, Joseph P., and Compagnucci. 191,297.

Copeland, Thomas D., Jr. : *See*—
Calfee, Virgil T. 191,316.

Damiani, Peter J., and S. G. Rita. Cover for golf club irons. 191,315, 9–12–61, Cl. D34—5.

Decor Glo Industries, Inc. : *See*—
Johnston, William, and H. and J. J. Gittelson. 191,327.

Dresser Industries, Inc. : *See*—
Groseclose, John K. 191,301.

Ekco Products Co. : *See*—
Hvale, James L. 191,325.
Latham, Richard S. 191,321.

Ernest, Robert O. : *See*—
Leman, Donald E., and Ernest. 191,344.

Esterbrook Pen Co., The : *See*—
Hose, Robert H., and Steinberg. 191,339.

Faber-Castell, A. W. : *See*—
Fuchs, Gunter. 191,341.
Fuchs, Gunter. 191,342.

Faison, Charles B. : *See*—
Johnson, Damon B., and Faison. 191,333.

Fern, Jules, to Fern Shoe Co. Heel for a shoe or similar article. 191,298, 9–12–61, Cl. D7—5.

Fern Shoe Co. : *See*—
Fern, Jules. 191,298.

Fuchs, Gunter, to A. W. Faber-Castell. Mechanical pencil. 191,341, 9–12–61, Cl. D74—24.

Fuchs, Gunter, to A. W. Faber-Castell. Mechanical pencil. 191,342, 9–12–61, Cl. D74—24.

General Panel Corp. : *See*—
Meek, George W. 191,335.

Gittelson, Herman : *See*—
Johnston, William H., and H. and J. J. Gittelson. 191,327.

Graham, Phillip. Curved Jalousie window. 191,302, 9–12–61, Cl. D13—1.

Grimm, Jean : *See*—
Magnin, Georges, and Grimm. 191,307.

Grinnell Corp. : *See*—
Hanson, Eric P. 191,346.

Griparis, Andrew G. Combined signal light and tow hitch for boats. 191,336, 9–12–61, Cl. D71—1.

Groseclose, John K., to Dresser Industries, Inc. Observation tower or similar article. 191,301, 9–12–61, Cl. D13—1.

Grosskopf, John A., to Scroll, Inc. Chair. 191,305, 9–12–61, Cl. D15—1.

Grosskopf, John A., to Scroll, Inc. Ottoman. 191,306, 9–12–61, Cl. D15—8.

Gusdorf, Walter. Combined stand and shelf for television receivers. 191,311, 9–12–61, Cl. D33—14.

Gusdorf, Walter. Combined cart and shelf for television receivers. 191,312, 9–12–61, Cl. D33—14.

Hamlett, Sidney J., to White Sewing Machine Corp. Sewing machine or similar article. 191,334, 9–12–61, Cl. D70—2.

Hanson, Eric P., to Grinnell Corp. Sprinkler for extinguishing fires. 191,346, 9–12–61, Cl. D91—1.

Hennig, Walter, and M. Claus, to VEB Kamera- und Kinowerke Dresden. Photographic camera. 191,331, 9–12–61, Cl. D61—1.

Hess, Roy P. : *See*—
Maul, John A., and Hess. 191,332.

Hill, Frances B. Child's toilet training figure. 191,309, 9–12–61, Cl. D25—1.

Hose, Robert H., and H. E. Steinberg, to The Esterbrook Pen Co. Desk base for a writing instrument. 191,339, 9–12–61, Cl. D74—5.

Hurwitt, Steven. Electric metallurgical processing unit. 191,329, 9–12–61, Cl. D55—1.

Hvale, James L., to Ekco Products Co. Handle for culinary implements or similar articles. 191,325, 9–12–61, Cl. D44—29.

Johnson, Damon B., and C. B. Faison, to Little Giant Corp. Miniature recirculating pump for displays, and the like. 191,333, 9–12–61, Cl. D65—1.

Johnston, William, and H. and J. J. Gittelson, to Decor Glo Industries, Inc. Table lamp base. 191,327, 9–12–61, Cl. D48—20.

Karoff, Robert. Snack serving tray or the like. 191,322, 9–12–61, Cl. D44—10.

Kaufman, Samuel J. Combined clock and memo pad holder. 191,337, 9–12–61, Cl. D74—1.

Kell, Frederick A. Combined cooler and display stand. 191,343, 9–12–61, Cl. D80—11.

Key, Edward M. Splitter knife. 191,308, 9–12–61, Cl. D22—3.

Latham, Richard S., to Ekco Products Co. Culinary beater. 191,321, 9–12–61, Cl. D44—1.

Leman, Donald E., and R. O. Ernest, to Sunbeam Corp. Blender. 191,344, 9–12–61, Cl. D89—1.

Lind, William E. Automobile air conditioning case. 191,304, 9–12–61, Cl. D14—6.

Little Giant Corp. : *See*—
Johnson, Damon B., and Faison. 191,333.

Magnin, Georges, and J. Grimm; said Grimm assor. to said Magnin. Hose supporter. 191,307, 9–12–61, Cl. D17—8.

Maul, John A., and R. P. Hess, to Addressograph-Multigraph Corp. Printing machine. 191,332, 9–12–61, Cl. D64—11.

Meek, George W., to General Panel Corp. House boat or similar article. 191,335, 9–12–61, Cl. D71—1.

Melnor Industries, Inc. : *See*—
Beinert, John D. 191,345.
Mengel, Harold J. Golf ball retrieving device. 191,314, 9–12–61, Cl. D34—5.
Monson, Wallace A., to Standard Packaging Corp. Desk calendar. 191,338, 9–12–61, Cl. D74—5.
Muse, Robert F. : *See*—
Berkson, Herbert D. 191,318.
Palma, Joseph, Jr., to Sunbeam Corp. Clock. 191,320, 9–12–61, Cl. D42—7.
Penparts Ltd. : *See*—
Shaw, Jack H. 191,340.
Petruccelli, Antonio J., to Radio Frequency Laboratories, Inc. Loud speaker cabinet. 191,310, 9–12–61, Cl. D26—14.
Radio Frequency Laboratories, Inc. : *See*—
Petruccelli, Antonio J. 191,310.
Reynolds Metals Co. : *See*—
Watts, Richard M. 191,324.
Rita, Samuel G. : *See*—
Damiani, Peter J., and Rita. 191,315.
Robinson, William W., to Arnold Bakers, Inc. Bread tray. 191,323, 9–12–61, Cl. D44—10.
Rohrmuller, August. Stand for flower pots. 191,317, 9–12–61, Cl. D35—3.
Salvail, Omer. Strap tensioning tool. 191,328, 9–12–61, Cl. D54—13.
Scroll, Inc. : *See*—
Grosskopf, John A. 191,305.
Grosskopf, John A. 191,306.
Shaw, Jack H., to Penparts Ltd. Pen. 191,340, 9–12–61, Cl. D74—17.
Singletary, Robert A. Portable hydraulic hoist. 191,319, 9–12–61, Cl. D41—1.
Standard Packaging Corp. : *See*—
Monson, Wallace A. 191,338.
Steinberg, Harold E. : *See*—
Hose, Robert H., and Steinberg. 191,339.
Sunbeam Corp. : *See*—
Leman, Donald E., and Ernest. 191,344.
Palma, Joseph, Jr. 191,320.
Tashman, Philip. Cart for carrying dishes or the like. 191,303, 9–12–61, Cl. D14—3.
VEB Kamera- und Kinowerke Dresden : *See*—
Hennig, Walter, and Claus. 191,331.
Watts, Richard M., to Reynolds Metals Co. Condiment dispenser. 191,324, 9–12–61, Cl. D44—22.
Wheat, Howard T. Swizzle stick. 191,326, 9–12–61, Cl. D44—29.
White Sewing Machine Corp. : *See*—
Hamlett, Sidney J. 191,334.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 12TH DAY OF SEPTEMBER, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc. : *See*—
Thorson, John R. 2,999,693.
A/S Grorud Jernvarefabrik : *See*—
Strandengen, Einar. 2,999,268.
Abler, Robert A., F. L. Becker, and D. G. Clifford, to Varian Associates. Dust free work bench apparatus. 2,999,448, 9–12–61, Cl. 98—36.
Ace Electronics Associates, Inc. : *See*—
Berni, Louis W. 2,999,996.
Acme Steel Co. : *See*—
Wilson, Allen B. 2,999,569.
Addressograph-Multigraph Corp. : *See*—
Cheeseman, Leslie H., and Lingard. 2,999,686.
Colyer, Edwin C., and Brown. 2,999,577.
Acton, Daniel D., to Anchor Hocking Glass Corp. Method and means for forming and inserting gasket blanks in closures. 2,999,531, 9–12–61, Cl. 154—15.
Adams, Fred, to General Motors Corp. Vehicle brake. 2,999,567, 9–12–61, Cl. 188—181.
Agfa Aktiengesellschaft : *See*—
Miller, Alfred, and Haydn. 2,999,750.
Ahlborn, John C. : *See*—
Dille, Roger M., Chapman, and Ahlborn. 2,999,741.
Airey, Leslie, to National Research Development Corp. Electrical measuring servosystem. 2,999,965, 9–12–61, Cl. 318—28.
Ajinomoto Co., Inc. : *See*—
Okawa, Kenji, and Sato. 2,999,878.
Aktiebolaget Broby Armaturfabrik : *See*—
Sjogren, Tore A. 2,999,666.
Aktiebolaget Kamyr : *See*—
Richter, Johan C. F. C., and Johansen. 2,999,785.
Aladdin Mfg. Co. : *See*—
Wilcox, Merrill B. 2,999,706.
Alderson Research Laboratories, Inc. : *See*—
Alderson, Samuel W. 2,999,317.
Alderson, Samuel W., to Alderson Research Laboratories, Inc. Drafting apparatus. 2,999,317, 9–12–61, Cl. 33—26.
Alexander, Frank M. : *See*—
Chope, Wilbert E., and Alexander. 2,999,381.
Francis, Kenneth E., and Alexander. 2,999,976.
Alexander, Harold M., and W. E. McCown, to Libbey-Owens-Ford Glass Co. Cleaning glass supporting tables. 2,999,341, 9–12–61, Cl. 51—279.
Alexander, Lewis W. : *See*—
Haller, John, and Alexander. 2,999,704.
Alford, Charles E., to Sterling Drug Inc. Stable aluminum hydroxide suspension. 2,999,790, 9–12–61, Cl. 167—55.
Alger, Jerry T., to Configured Tube Products Co. Flame shapers. 2,999,535, 9–12–61, Cl. 158—113.
Allied Plastics Co. : *See*—
Crane, Walton B. 2,999,468.
Allis-Chalmers Mfg. Co. : *See*—
Babb, Charles L. 2,999,465.
Baugh, Robert T. 2,999,581.
Elgner, Harold E., and Imhoff. 2,999,809.
Allison, William D. Spring suspension for motor vehicles. 2,999,694, 9–12–61, Cl. 280—104.
Althouse, William S., Jr. : *See*—
Conrad, Martin B., and Althouse. 2,999,544.
Aluminum Co. of America : *See*—
Blayden, James H. 2,999,671.
Myers, Robert R. 2,999,703.
Alwac International Inc. : *See*—
Hagen, Glenn E. 2,999,636.
Amchem Products, Inc. : *See*—
Schell, James H., Douty, and Faigen. 2,999,811.
Amdur, Charles J., and E. J. Weinstein. Ornamental door knob cover. 2,999,523, 9–12–61, Cl. 150—52.
American Brake Shoe Co. : *See*—
Frichette, Roswell S., Jr. 2,999,564.
American Can Co. : *See*—
Dannenbrink, Robert W., and Unmuth. 2,999,828.
Hommel, William B. 2,999,687.
American Cyanamid Co. : *See*—
Bott, George S., and Taylor. 2,999,588.
Buckler, Sheldon A., and Doll. 2,999,882.
Gerhardt, Gerard E. 2,999,590.
Gleckler, George C., and Sutherland. 2,999,881.
Nemes, Joseph J., and Vartanian. 2,999,847.
Stamm, Robert F., and Button. 2,999,414.
American Heat-Seal, Inc. : *See*—
Bono, Joseph J., and Roos. 2,999,521.
American Viscose Corp. : *See*—
Justice, John L., and Rosser. 2,999,782.
Schappel, Joseph W. 2,999,774.
Anchor Hocking Glass Corp. : *See*—
Acton, Daniel D. 2,999,531.
Andelin, John, to Falcon Plastics Co. Fluid tight container. 2,999,387, 9–12–61, Cl. 73—427.
Anderson Co., The : *See*—
Wise, Ralph H. 2,999,399.
Anderson, George B., and F. E. Compton, to Consolidated Machine Tool, division of Farrel-Birmingham Co., Inc. Axle recentering machine. 2,999,403, 9–12–61, Cl. 77—18.
Anderson, Gilbert L. : *See*—
Weston, Herbert, and Anderson. 2,999,501.
Anderson, John W. Vehicle mirror mounting structure. 2,999,663, 9–12–61, Cl. 248—220.5.
Apex Paper Box Co. : *See*—
Riley, Thomas, Zaas, Gaser, and Strmac. 2,999,430.
Apotheloz, Robert, and M. Huber, to Machine Tool Works Oerlikon, Administration Co. Impact fuze. 2,999,461, 9–12–61, Cl. 102—75.
Ardente Acoustic Laboratories Ltd. : *See*—
Morrish, Desmond G. 2,999,992.
Aries, Robert S. : *See*—
Curtis, Gerard W. 2,999,858.
Armacost, Wilbur H., to Combustion Engineering, Inc. Furnace wall and support construction. 2,999,483, 9–12–61, Cl. 122—510.
Arrow Tools, Inc. : *See*—
De Frangesco, Ralph D. 2,999,407.
Art Industries, Inc. : *See*—.
Stein, Jack. 2,999,332.
Arvidson, Harold C., Jr., and N. Blake, to E. I. du Pont de Nemours and Co. Stabilization of elastomers containing ureylene groups. 2,999,839, 9–12–61, Cl. 260—45.9.
Ashton, Robert : *See*—
Horne, Donald S., Ashton, and Kepkay. 2,999,347.
Horne, Donald S., Ashton, and Kepkay. 2,999,556.
Ashworth, Fred, and A. J. Knowles, to Metropolitan-Vickers Electrical Co. Ltd. Magnetic signal carriers. 2,999,766, 9–12–61, Cl. 117—94.
Atlas Powder Co. : *See*—
Barlow, Lester P. 2,999,459.
Kincaid, George F., Douglas, and Gay. 2,999,912.
Ault, John D., and D. P. McConnell, to Mining Research Corp. Single stage rock crusher. 2,999,651, 9–12–61, Cl. 241—218.
Austin, Harry W. : *See*—
Hamilton, William C., and Austin. 2,999,497.
Babb, Charles L., to Allis-Chalmers Mfg. Co. Double casing multiple stage pump. 2,999,465, 9–12–61, Cl. 103—107.
Babson, Arthur L., to Warner-Lambert Pharmaceutical Co. Diagnostic preparation and process for the determination of serum alkaline phosphatase. 2,999,793, 9–12–61, Cl. 195—103.5.
Baillif, Ernest A., and R. W. Fink, to Whirlpool Corp. Home appliance. 2,999,372, 9–12–61, Cl. 62—353.
Baisley, Raymond J. : *See*—
Keely, Clifford D., and Baisley. 2,999,342.
Bakay, Arpad : *See*—
Heller László, and Bakay. 2,999,945.
Baker Oil Tools, Inc. : *See*—
Bigelow, Herbert L. 2,999,545.
Conrad, Martin B., and Althouse. 2,999,544.
Myers, William D. 2,999,542.
Myers, William D. 2,999,543.
Baldt Anchor, Chain & Forge Division of The Boston Metals Co. : *See*—
Linnenbank, Charles D. 2,999,352.
Baltes Alphonse J., Road finishing machine. 2,999,433, 9–12–61, Cl. 94—45.
Banigan, Thomas F., Jr., to Tidewater Oil Co. Surface ignition suppression. 2,999,740, 9–12–61, Cl. 44—69.
Barkow, Eugene V. Flow control valve. 2,999,512, 9–12–61, Cl. 137—614.16.
Barlow, Lester P., to Atlas Powder Co. Apparatus for handling explosive cartridges. 2,999,459, 9–12–61, Cl. 102—24.
Barnes, Robert E. Automatic battery tester. 2,999,980, 9–12–61, Cl. 324—29.5.
Barnett, Lee A., ¼ to Gadget-Of-The-Month Club, Inc. Manually operable carousel-simulating toy. 2,999,335, 9–12–61, Cl. 46—220.
Bartelink, Everhard H. B. Highway traffic control system. 2,999,999, 9–12–61, Cl. 340—31.
Bartell, Clarence C. : *See*—
Bixby, Leo A., and Bartell. 2,999,695.
Barth, Bruce P., to Union Carbide Corp. Binder compositions. 2,999,283, 9–12–61, Cl. 22—193.
Basen, Toralv, to Elektrokemisk A/S. Process of reducing molded bodies comprising metallic oxides. 2,999,748, 9–12–61, Cl. 75—36.
Baso Inc. : *See*—
Schwalbach, Joseph C. 2,999,536.
Bassick Co., The : *See*—
Ericson, Sidney A., and Parrott. 2,999,665.
Bata Shoe Co. of Canada Ltd. : *See*—
Cervinka, Anthony. 2,999,517.
Baugh, Robert T., to Allis-Chalmers Mfg. Co. Endless track assembly. 2,999,581, 9–12–61, Cl. 198—165.
Bausch & Lomb Inc. : *See*—
Blair, Gerald E. 2,999,819.
Emmel, Henry J. 2,999,425.
Hensler, Joseph R. 2,999,339.
Baxter, Bruce L., to Reynolds Metals Co. Hot pressure welded honeycomb passageway panels and like structures. 2,999,306, 9–12–61, Cl. 29—157.3.

Bayer, Otto: *See*—
Muller, Erwin, and Bayer. 2,999,844.
Beamon, Howard L., to Hanes Hosiery Mills Co. Automatic selective doffing device for knitwear looping machines. 2,999,470, 9–12–61, Cl. 112—26.
Beard, Richard B., and E. Snitzer, to Minneapolis-Honeywell Regulator Co. Gas analyzing apparatus. 2,999,379, 9–12–61, Cl. 73—23.
Beck, Kenneth H., to Minneapolis-Honeywell Regulator Co. Series-energized cascaded transistor amplifier. 2,999,984, 9–12–61, Cl. 330—18.
Becker, Floyd L.: *See*—
Abler, Robert A., Becker, and Clifford. 2,999,448.
Beckman & Whitley, Inc.: *See*—
Buck, Willard E. 2,999,420.
Beckwith, Robert W. Signal transmission circuit. 2,999,948, 9–12–61. Cl. 307—88.5.
Bedard, Eugene J., D. F. Lippincott, and C. H. Nickell, to The Wheland Co. Drive for reciprocating power pumps and the like. 2,999,401, 9–12–61, Cl. 74—801.
Beiser, Carl A.: *See*—
Saunders, Earle R., Franks, and Beiser. 2,999,749.
Bell, Richard W., E. Csendes, and H. F. McShane, Jr., to E. I. du Pont de Nemours and Co. Stabilized uncured copolymers of butadiene and styrene. 2,999,840, 9–12–61, Cl. 260—45.85.
Bell Telephone Laboratories, Inc.: *See*—
Kluver, Johan W. 2,999,959.
Weller, David C. 3,000,004.
Bender, Stanley O., to CTS Corp. Grounding means for electrical controls with a reciprocating shaft. 2,999,991, 9–12–61, Cl. 338—162.
Bendix Corp., The: *See*—
Ferguson, John H., Jr. 2,999,356.
Spencer, Glenn S. 2,999,705.
Benink, Christiaan J. M., and H. Wenz, to G. M. Pfaff, A.G. Adjustable guiding cam mechanism. 2,999,471, 9–12–61, Cl. 112—158.
Bennett, Edward J., and H. M. Parmelee, to E. I. du Pont de Nemours and Co. Azeotropic composition. 2,999,816, 9–12–61, Cl. 252—171.
Bennett, Leslie H.: *See*—
Morton, Lawrence L., Decker, and Bennett. 2,999,285.
Benson, Bernard S., to Benson-Lehner Corp. Graph transformation apparatus. 2,999,315, 9–12–61, Cl. 33—1.
Benson, Harold R., to NuArc Co., Inc. Film dot analyzer. 2,999,419, 9–12–61, Cl. 88—14.
Benson-Lehner Corp.: *See*—
Benson, Bernard S. 2,999,315.
Berberian, Edward. Surface-cleaning and rug-shampooing machines. 2,999,258, 9–12–61, Cl. 15—50.
Berni, Louis W., to Ace Electronics Associates, Inc. Wire wound resistor terminal cap. 2,999,996, 9–12–61, Cl. 338—329.
Berry, Robert M. Machines for the packing of bottles or like articles into cases or the like. 2,999,343, 9–12–61, Cl. 53—166.
Besson, Rene: *See*—
Beyner, Andre, and Besson. 2,999,966.
Beyner, André, and R. Besson, to Ebauches S.A. Timepiece comprising an electromagnetically maintained oscillating regulator. 2,999,966, 9–12–61, Cl. 318—132.
Blake, Norman: *See*—
Arvidson, Harold C., Jr., and Blake. 2,999,839.
Blayden, James H., to Aluminum Co. of America. Handrail connection. 2,999,671, 9–12–61, Cl. 256—65.
Bleuenstein, Julius M., to Ford Motor Co. Process for mixing a Novalak resin and sand with an A-stage resin and sand to obtain a shell molding sand. 2,999,833, 9–12–61, Cl. 260—38.
Blonder-Tongue Electronics: *See*—
Tongue, Ben H. 2,999,985.
Bloom, Albert, to General Aniline & Film Corp. Process of defoliating cotton plants. 2,999,745, 9–12–61, Cl. 71—2.7.
Bloom, Albert, H. B. Freyermuth, and J. B. Normington, to General Aniline & Film Corp. Process for the preparation of organic isocyanates. 2,999,873, 9–12–61, Cl. 260—453.
Blume, Walter S., Jr., to Leyman Corp. Mechanical orientation of magnetically anisotropic particles. 2,999,275, 9–12–61, Cl. 18—55.
Bodine, Albert G., Jr. Sonic heater for wells. 2,999,540, 9–12–61, Cl. 166—39.
Boenau, Arthur H., to Socony Mobil Oil Co., Inc. Coating for milk containers. 2,999,765, 9–12–61, Cl. 117—76.
Boggs, H. D., Co., Ltd.: *See*—
Perrault, Lewis. 2,999,780.
Bohrer, Joseph H., Sr., to Continental Rubber Works. Strap for a tumbling device. 2,999,558, 9–12–61, Cl. 182—139.
Bonnell, William L., Co., Inc., The: *See*—
Gault, Kenneth W. 2,999,802.
Bonner, Olga B.: *See*—
Schwab, Max. 2,999,575.
Bono, Joseph J., and C. J. Roos, to American Heat-Seal, Inc. Pouch and method of making same. 2,999,521, 9–12–61, Cl. 150—13.
Boode, Carl N.: *See*—
Bourns, Marlan E., Boode, and O'Brian. 2,999,995.
Boresch, Carl, to Farbenfabriken Bayer Aktiengesellschaft. Complex chromic compounds. 2,999,768, 9–12–61, Cl. 117—121.
Bosch, Robert, G.m.b.H.: *See*—
Stier, Reinhardt, and Hofmann. 2,999,487.
Bossong, John E.: *See*—
Drever, James R., Kavanaugh, and Bossong. 2,999,281.
Bott, George S., and A. S. Taylor, to American Cyanamid Co. Size classification of sutures. 2,999,588, 9–12–61, Cl. 209—74.
Bourns, Inc.: *See*—
Bourns, Marlan E., Boode, and O'Brian. 2,999,995.
Bourns, Marlan E., Hardison, and O'Brian. 2,999,994.
Bourns, Marlan E., W. T. Hardison, and E. D. O'Brian; said Hardison and O'Brian assors. to Bourns, Inc. Adjustable electrical resistors. 2,999,994, 9–12–61, Cl. 338—180.
Bourns, Marlan E., C. N. Boode, and E. D. O'Brian; said Boode and said O'Brian assors. to Bourns, Inc. Mechanically variable resistor. 2,999,995, 9–12–61, Cl. 338—180.
Bower, Frank A., to E. I. du Pont de Nemours and Co. Azeotropic composition. 2,999,817, 9–12–61, Cl. 252—172.
Bower, John L., to North American Aviation, Inc. Digital fluid control system. 2,999,482, 9–12–61, Cl. 121—38.
Bowerman, Edwin R., Jr., and A. J. Marko, to Sylvania Electric Products Inc. Electroluminescent display device. 2,999,958, 9–12–61, Cl. 313—108.
Boyer, Samuel D. Splatter guard for frying pans and the like. 2,999,559, 9–12–61, Cl. 183—1.
Boyne Products, Inc.: *See*—
Dryer, Peter J., and Harding. 2,999,911.
Bozza, Joseph D., to The Jo-An Shoe Mfg. Co., Inc. Moccasins and footwear. 2,999,323, 9–12–61, Cl. 36—11.
Brand, Samuel, to International Business Machines Corp. Manually controlled record sorting machine. 2,999,592, 9–12–61. Cl. 209—122.
Bratton, Roy R. Tool for sharpening ice skates. 2,999,402, 9–12–61, Cl. 76—83.
Breen, Alvin L., and G. Pamm, to E. I. du Pont de Nemours and Co. Novel filaments and fabrics. 2,999,296, 9–12–61, Cl. 28—78.
Breithaupt, Donald E. Slider for slide fasteners. 2,999,287, 9–12–61, Cl. 24—205.14.
Brelsford, Harry W.: *See*—
Stroud, Malcolm B., and Greene. 2,999,555.
Brenner, Abe. Severing device for flimsy material. 2,999,410, 9–12–61, Cl. 83—485.
Breslav, Jack: *See*—
Elberty, Robert S. 2,999,716.
Breza, Cyril J., and C. O. Davis, to E. I. du Pont de Nemours and Co. Deformable self-supporting explosive composition. 2,999,743, 9–12–61, Cl. 52—5.
Briggs & Stratton Corp.: *See*—
Coughlin, Charles L., Gumtow, Svendsen, and Brown. 2,999,489.
Harkness, Joseph R. 2,999,491.
Lechtenberg, Leo J. 2,999,562.
Brink, Robert M., to Time, Inc. Parallel binary comparator circuit. 3,000,001. 9–12–61, Cl. 340—149.
Bristol-Myers Co.: *See*—
Wheatley, William B., and Dickison. 2,999,880.
British Cotton Industry Research Association, The: *See*—
Magarshack, John M., and Moss. 2,999,294.
British Thomson-Houston Co. Ltd., The: *See*—
Prowse, Donald W., and Rayden. 2,999,580.
British Titan Products Co. Ltd.: *See*—
Groves, James D. 2,999,733.
Broich, Franz, F. List, and N. Roh, to Chemische Werke Huls Aktiengesellschaft. Process for the production of aromatic carboxylic acids. 2,999,879, 9–12–61, Cl. 260—524.
Bromley, LeRoy A., to The Regents of the University of California. Multiple unit centrifugal evaporator. 2,999,796, 9–12–61, Cl. 202—236.
Brounstein, Cyril J.: *See*—
Shiner, Edward A., and Brounstein. 2,999,756.
Shiner, Edward A., and Brounstein. 2,999,757.
Broussaud, Georges, to Compagnie Generale de Telegraphic Sans Fil. Electromagnetic device for homogeneity control. 2,999,982, 9–12–61, Cl. 324—58.5.
Brown-Brockmeyer Co., The: *See*—
Brown, Steffen S. 2,999,920.
Brown, Frank A., to National Dairy Products Corp. Ice cream package. 2,999,758, 9–12–61, Cl. 99—180.
Brown, George W.: *See*—
Colyer, Edwin C., and Brown. 2,999,577.
Brown, Hugh S.: *See*—
Coughlin, Charles L., Gumtow, Svendsen, and Brown. 2,999,489.
Brown, James D.: *See*—
Spencer, William H., and Brown. 2,999,277.
Spencer, William H., and Brown. 2,999,278.
Brown, Kenneth M., to Universal Oil Products Co. Waste water treatment. 2,999,808, 9–12–61, Cl. 208—264.
Brown, Leonard C., to Industrial Nucleonics Corp. Nuclear magnetic resonance measuring system. 2,999,977, 9–12–61, Cl. 324—5.
Brown, Steffen S., to The Brown-Brockmeyer Co. Reversible geared head electric motor and control system therefor. 2,999,920, 9–12–61, Cl. 200—168.
Brownlee, William R. Measuring and controlling apparatus. 2,999,638, 9–12–61, Cl. 235—185.
Bruet, Henri R., to Etablissements A Cazeneuve. Drilling and the like arrangement fitted on a lathe tailstock. 2,999,404, 9–12–61, Cl. 77—34.6.
Bruijning, Bernard H.: *See*—
Beukema, Willem, Bruijning, and Vuurmans. 2,999,302.
Brunswick Automatic Pinsetter Corp., The: *See*—
Huck, William F. 2,999,690.
Bestian, Herbert, and J. Lange, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Polyethylene waxes and process for preparing them. 2,999,856, 9–12–61, Cl. 260—94.9.
Beukema, Willem, B. H. Bruijning, and J. Vuurmans, to North American Philips Co., Inc. Applying leads to tubular electrical components. 2,999,302, 9–12–61, Cl. 29—155.5.
Beyner, Andre, and R. Besson, to Ebauches S.A. Timepiece comprising an electromagnetically maintained oscillating regulator. 2,999,966, 9–12–61, Cl. 318—132.
Betz Laboratories, Inc.: *See*—
Kahler, Harry L., and George. 2,999,732.

Bible, Robert E., M. G. Dreyfus, J. M. Parker, and R. R. Williamson, to General Precision, Inc. Position detector. 2,999,939, 9–12–61, Cl. 250—203.

Bigelow, Herbert L., to Baker Oil Tools, Inc. Retrievable plug. 2,999,545, 9–12–61, Cl. 166—153.

Binder, Raymond C., to Purdue Research Foundation. Apparatus for suppressing galloping conductors. 2,999,894, 9–12–61, Cl. 174—42.

Birkenes, Bernhard, to Motorola, Inc. Radio receiver circuit. 2,999,927, 9–12–61, Cl. 250—20.

Bischoff, Kurt: *See*—
Schwesig, Heinz, and Bischoff. 2,999,970.

Bixby, Leo A., and C. C. Bartell; said Bixby assor. to Rockwell-Standard Corp. Suspension for tandem axle assembly. 2,999,695, 9–12–61, Cl. 280—104.5.

Blair, David R., and D. P. Hynes, to Chicago Forging and Mfg. Co. Pipe coupling having sealing and anchoring means. 2,999,701, 9–12–61, Cl. 285—340.

Blair, Gerald E., to Bausch & Lomb Inc. Phosphate glass composition for dosimeter. 2,999,819, 9–12–61, Cl. 252—408.

Blair, Otis E., to The Staset Co., Inc. Diamond dressing tool. 2,999,493, 9–12–61, Cl. 125—39.

Blair, William B. Ski clamp. 2,999,378, 9–12–61, Cl. 70—58.

Brunswick Corp.: *See*—
Lappin, Richard J., and Mohr. 2,999,662.

Bryan, Ford R., to Ford Motor Co. Metallic tracer method for determining lubricant in engine exhaust. 2,999,383, 9–12–61, Cl. 73—116.

Buc, Saul R.: *See*—
Renfrew, Edgar E., and Buc. 2,999,852.

Buck, Porter A., and R. G. Crist. Fryer. 2,999,451, 9–12–61, Cl. 99—353.

Buck, Willard E., to Beckman & Whitley, Inc. Continuous writing streak camera. 2,999,420, 9–12–61, Cl. 88—16.

Buckler, Sheldon A., and L. Doll, to American Cyanamid Co. Method of preparing secondary phosphines. 2,999,882, 9–12–61, Cl. 260—606.5.

Bucyrus-Erie Co.: *See*—
Mork, George W. 2,999,601.

Budd Co., The: *See*—
McClelland, John C. 2,999,382.

Buensod-Stacey Corp.: *See*—
Waterfill, Robert W. 2,999,640.

Bulan, Edward P.: *See*—
Saubestre, Edward B., and Bulan. 2,999,799.

Buningh, Weigert C., and C. D. Ten Have, to Shell Oil Co. Removal of nitrogen compounds from gasoline. 2,999,807, 9–12–61, Cl. 208—254.

Burk, Robert E., and E. H. Price, to E. I. du Pont de Nemours and Co. Coated article comprising a substrate of polyethylene or polyamide and a grafted coating of polytetrafluoroethylene or polymethyl methacrylate. 2,999,772, 9–12–61, Cl. 117—138.8.

Burki, René, and E. Von Hein, to Maschinenfabrik Winkler, Fallert & Co. Former folding apparatus for rotary and like printing machines. 2,999,685, 9–12–61, Cl. 270—86.

Burklin, Adolf J., and F. W. Lauck, to A. O. Smith Corp. Radiant energy purifier. 2,999,930, 9–12–61, Cl. 250—46.

Bursak, George J. Combined shear and heat seal apparatus, 2,999,532, 9–12–61, Cl. 154—42.

Burstow, Pierre, to Compagnie Industrielle des Telephones. Polarised magnetostatic relay. 2,999,946, 9–12–61, Cl. 307—88.

Button, Peter A.: *See*—
Stamm, Robert F., and Button. 2,999,414.

Buzicky, Edmund J.: *See*—
Swanson, Donald F., and Buzicky. 2,999,369.

CTS Corp.: *See*—
Bender, Stanley O. 2,999,991.

Cacella, Arthur F., and H. L. White, to E. I. du Pont de Nemours and Co. Cellulose acetate composition. 2,999,760, 9–12–61, Cl. 106—184.

Calder, Nigel D. R.: *See*—
Schagen, Pieter, and Calder. 2,999,957.

Camerino, Bruno, R. Modelli, and B. Patelli, to Societa Farmaceutici Italia. Process of preparing 4-hydroxy-3-keto-4-androstenes. 2,999,870, 9–12–61, Cl. 260—397.4.

Cameron-Johnson, Alan, to Rotol Ltd. Variable-delivery multi-stage hydraulic pumps. 2,999,463, 9–12–61, Cl. 103—5.

Campagnano, Leo. Pulper. 2,999,650, 9–12–61, Cl. 241—46.

Campas, William J., to Olin Mathieson Chemical Corp. Fabrication of hollow articles. 2,999,307, 9–12–61, Cl. 29—157.3.

Campbell, George A., to Wallace & Tiernan Inc. Indicating and control system responsive to demand. 2,999,797, 9–12–61, Cl. 204—1.

Campbell, Richard A., to Pacific Semiconductors, Inc. Automatic diode sorter. 2,999,587, 9–12–61, Cl. 209—73.

Canada, Her Majesty the Queen in the right of, as represented by the Minister of National Defence: *See*—
Holbrook, George W. 2,999,986.

Capewell Mfg. Co., The: *See*—
Warner, Alden Y., Craven, and Satcherl. 2,999,288.

Carder, Gault. Animal restraining tree guard. 2,999,479, 9–12–61, Cl. 119—1.

Cardwell Westinghouse Co.: *See*—
Peterson, Bertil E. 2,999,726.

Carl-Freudenberg KG. a.A.: *See*—
Graulich, Wilhelm, Sinn, Nottebohm, and Schabert. 2,999,773.

Carlsen, Leonard O., to The Gleason Works. Drive of gear generating machine. 2,999,429, 9–12–61, Cl. 90—6.

Carpenter, Virgil R., to The Unipress Co. Machine control switch. 2,999,917, 9–12–61, Cl. 200—153.

Carrier Corp.: *See*—
MacLeod, David E. 2,999,371.

Case, J. I., Co.: *See*—
Wenzel, Philip D. 2,999,548.

Casserly, John P., to The Electric Storage Battery Co. Storage battery construction. 2,999,893, 9–12–61, Cl. 136—166.

Cervinka, Anthony, to Bata Shoe Co. of Canada Ltd. Automatic filling device for travelling moulds. 2,999,517, 9–12–61, Cl. 141—137.

Cescas, Jean-Baptiste, to Compagnie nord-Africaine de L'Hyperphosphate Reno. Preparation of coated seeds. 2,999,336, 9–12–61, Cl. 47—58.

Chalich, Charles, to Taylor Mfg. Co., Inc. Apparatus for transferring articles. 2,999,604, 9–12–61, Cl. 214—1.

Chalmers, John W., C. T. Hall, and W. A. Roffey, to Molins Machine Co. Ltd. Apparatus for folding flexible wrappers about rectangular block-shaped articles. 2,999,345, 9–12–61, Cl. 53—230.

Chance Vought Corp.: *See*—
Clark, John R. 2,999,657.

Chandler Evans Corp.: *See*—
Sherwood, Walter A. 2,999,993.

Chapman, Roland W.: *See*—
Dille, Roger M., Chapman, and Ahlborn. 2,999,741.

Cheeseman, Leslie H., and F. E. Lingard, to Addressograph-Multigraph Corp. Feeding apparatus for rotary printing machines. 2,999,686, 9–12–61, Cl. 271—11.

Chemische Werke Huls Aktiengesellschaft: *See*—
Broich, Franz, List, and Roh. 2,999,879.

Cherba, Samuel: *See*—
Gronemeyer, Erich, and Cherba. 2,999,273.

Chew, Clarence, Sr., to Owens-Illinois Glass Co. Controlling the flow of molten glass through a furnace forehearth. 2,999,511, 9–12–61, Cl. 137—392.

Chicago Bridge & Iron Co.: *See*—
La Fave, Ivan V., and Wissmiller. 2,999,366.

Chicago Forging and Mfg. Co.: *See*—
Blair, David R., and Hynes. 2,999,701.

Chope, Wilbert E., and F. M. Alexander, to Industrial Nucleonics Corp. Nuclear magnetic resonance measuring system. 2,999,381, 9–12–61, Cl. 73—73.

Christian, Joseph D. Speed change device. 2,999,398, 9–12–61, Cl. 74—421.

Christiania Spigerverk: *See*—
Smeida, Oscar J. 2,999,603.

Clanin, Richard D., and O. Hansen, Jr., to Lynch Corp. Cartoning machine. 2,999,344, 9–12–61, Cl. 53—186.

Clark, J. R., Co., The: *See*—
Munson, Donald J., and Gustin. 2,999,325.

Clark, John R., to Chance Vought Corp. Stabilizing means for aircraft. 2,999,657, 9–12–61, Cl. 244—91.

Clark, William E. Belt hoop spinner. 2,999,333, 9–12–61, Cl. 46—47.

Clay, Franklin B., Jr., J. F. Kenney, M. J. Kidder, and R. H. Vandenberg to Remington Arms Co., Inc. Coating process and coating promoter compounds for bullets. 2,999,767, 9–12–61, Cl. 117—109.

Clifford, David G.: *See*—
Abler, Robert A., Becker, and Clifford. 2,999,448.

Coats & Clark Inc.: *See*—
Morin, Louis H. 2,999,276.

Coberly, Clarence J., to Kobe, Inc. Tandem hydraulic pump system. 2,999,464, 9–12–61, Cl. 103—49.

Cocker Machine & Foundry Co.: *See*—
Manning, George, and McCoig. 2,999,295.

Cole, Fred H. Self-aligning electrical connector assembly. 2,999,998, 9–12–61, Cl. 339—64.

Colyer, Edwin C., and G. W. Brown, to Addressograph-Multigraph Corp. Embossing machine. 2,999,577, 9–12–61, Cl. 197—6.6.

Combustion Engineering, Inc.: *See*—
Armacost, Wilbur H. 2,999,483.

Commercial Cam & Machine Co.: *See*—
McDonald, James A., and Evans. 2,999,311.

Commissariat a L'Engerie Atomique: *See*—
Redon, Andre. 2,999,738.

Compagnie des Ateliers et Forges de la Loire (St. Chamond, Firminy, St Etienne, Jacob-Holtzer): *See*—
De Framond, Paul. 2,999,298.

Compagnie Generale de Telegraphic Sans Fil: *See*—
Broussaud, Georges. 2,999,982.

Compagnie Industrielle des Telephones: *See*—
Burstow, Pierre. 2,999,946.

Compagnie nord-Africaine de L'Hyperphosphate Reno: *See*—
Cescas, Jean-Baptiste. 2,999,336.

Compton, Francis E.: *See*—
Anderson, George B., and Compton. 2,999,403.

Compur-Werk Friedrich Deckel OGH: *See*—
Fahlenberg, Paul. 2,999,445.

Computer Control Co., Inc.: *See*—
Dean, Franklin R. 2,999,947.

Concentro Corp.: *See*—
Radcliffe, Charles S. 2,999,649.

Configured Tube Products Co.: *See*—
Alger, Jerry T. 2,999,535.

Conrad, Martin B., and W. S. Althouse, Jr., to Baker Oil Tools, Inc. Retrievable parallel string well packer apparatus. 2,999,544, 9–12–61, Cl. 166—134.

Consolidated Electrodynamics Corp.: *See*—
Stanaway, Robert E. 2,999,914.

Consolidated Electronics Industries Corp.: *See*—
Haydon, Arthur W., and Winchel. 2,999,928

Consolidated Machine Tool, Division of Farrel-Birmingham Co., Inc.: *See*—
Anderson, George B., and Compton. 2,999,403.

Constructions Electro-Mecaniques de Saint-Etienne (Ancienne Usine Wageor): *See*—
Gerentes, Jean. 2,999,550.

Conti, Alfred R., and D. J. Menter. Cutting tool. 2,999,301, 9–12–61, Cl. 29—96.

Continental Oil Co.: *See*—
Stratton, Hal. 2,999,549.
Continental Rubber Works: *See*—
Bohrer, Joseph H., Sr. 2,999,558.
Cooley, Robert A., to Olin Mathieson Chemical Corp. Timing device. 2,999,910, 9–12–61, Cl. 200—52.
Copland, George V.: *See*—
Smith, Edward W., and Copland. 2,999,557.
Cornet, André. Piston. 2,999,727, 9–12–61, Cl. 309—10.
Cottingham, Morrison, and G. E. Forsyth. Hand supported doughnut machine. 2,999,469, 9–12–61, Cl. 107—14.
Coughlin, Charles L., H. A. Gumtow, I. H. Svendsen, and H. S. Brown, to Briggs & Stratton Corp. Spring motor engine starter. 2,999,489, 9–12–61, Cl. 123—179.
Coursen, David L., to E. I. du Pont de Nemours and Co. Surface wave generator. 2,99,458, 9–12–61, Cl. 102—22.
Crabb, Clarence R., H. G. Hughes, and L. S. McDonald, to The Dow Chemical Co. Stable solvent compositions. 2,999,886, 9–12–61, Cl. 260—652.5.
Craig, W E, and J. O. Van Hook, to Rohm & Haas Co. Metal salt aminoalcohol complexes. 2,999,872, 9–12–61, Cl. 260—429.
Crane, Walton B., to Allied Plastics Co. Method and means for loading produce containers and the like for shipment. 2,999,468, 9–12–61, Cl. 105—369.
Craven, Wilbur J.: *See*—
Warner, Alden Y., Craven, and Satcherl. 2,999,288.
Crist, Richard G.: *See*—
Buck, Porter A., and Crist. 2,999,451.
Crocker, Henry P., and K. H. W. Turck, to The Distillers Co. Ltd. Production of chloroprene. 2,999,888, 9–12–61, Cl. 260—655.
Crombie, Joseph S. Low pressure compressor. 2,999,028, 9–12–61, Cl. 230—47.
Crump, Jack G., to Industrial Nucleonics Corp. Container inspection system. 2,999,591, 9–12–61, Cl. 209—82.
Csendes, Ernest: *See*—
Bell, Richard W., Csendes, and McShane, Jr. 2,999,840.
Csendes, Ernest, to E. I. du Pont de Nemours and Co. Stabilized elastomer compositions. 2,999,841, 9–12–61, Cl. 260—45.95.
Csendes, Ernest, to E. I. du Pont de Nemours and Co. Stabilized cured elastomers. 2,999,842, 9–12–61, Cl. 260—45.95.
Cunningham, Arthur R., to Cunningham & Sons. Windrower mechanism. 2,999,348, 9–12–61, Cl. 56—23.
Cunningham, Francis V., to McGraw-Edison Co. Lightning arrester. 2,999,960, 9–12–61, Cl. 315—36.
Cunningham & Sons: *See*—
Cunningham, Arthur R. 2,999,348.
Curry, Winfield S., Jr., to Hughes Aircraft Co. Transistor majority logic adder. 2,999,637, 9–12–61, Cl. 235—175.
Curtis, Gerard W., to R. S. Aries. Preparation of sucrose monoesters. 2,999,858, 9–12–61, Cl. 260—234.
Curtiss-Wright Corp.: *See*—
Gallo, Elia A., and Payne. 2,999,354.
Harshman, Daniel L. 2,999,672.
Howald, Werner E., and Hollerith. 2,999,668.
Cutter Laboratories: *See*—
Fowell, Alfred H. 2,999,791.
Cutter Laboratories, Inc.: *See*—
Willet, Richard H. 2,999,499.
Daffin Mfg. Co.: *See*—
Mast, Aquila D. 2,999,617.
Dagg, Ian R.: *See*—
Thiessen, George J., and Dagg. 2,999,380.
Dahmen, Anneliese: *See*—
Latzen, Josef H. 2,999,710.
Daimler-Benz Aktiengesellschaft: *See*—
Eitel, Max, and Eisele. 2,999,796.
Müller, Josef, Van Winsen, and Zimmer. 2,999,681.
Stump, Eugen. 2,999,682.
Dairy Containers, Inc.: *See*—
Slagel, Lamont, and Mead. 2,999,533.
Dannenbrink, Robert W., and G. E. Unmuth, to American Can Co. Wax composition and sheet materials coated therewith. 2,999,828, 9–12–61, Cl. 260—28.5.
Davenport, T. B., and A. G. New, to Deering Milliken Research Corp. Bulky yarn. 2,999,351, 9–12–61, Cl. 57—140.
Davis, Clyde O.: *See*—
Breza, Cyril J., and Davis. 2,999,743.
Davis, Ralph E., to Radio Corp. of America. Method of delaminating laminated glass structures. 2,999,781, 9–12–61, Cl. 154—120.
Davison, Joseph W., to Phillips Petroleum Co. Process for isomerization of hydrocarbons. 2,999,890, 9–12–61, Cl. 260—666.
Deal, Carl H., Jr.: *See*—
Papadopoulos, Michael N., and Deal. 2,999,892.
Dean, Franklin R., to Computer Control Co., Inc. Universal logical package. 2,999,947, 9–12–61, Cl. 307—88.5.
Dear, Ervin J. Ore pulverizing mill with centrifugal impact pulverizing action. 2,999,652, 9–12–61, Cl. 241—275.
Decca Record Co. Ltd., The: *See*—
Hansford, Reginald F., and Parker. 3,000,007.
Decker, William H.: *See*—
Morton, Lawrence L., Decker, and Bennett. 2,999,285.
Deering Milliken Research Corp.: *See*—
Davenport, T. B., and New. 2,999,351.
De Framond, Paul, to Compagnie des Ateliers et Forges de la Loire (St. Chamond, Firminy, St. Etienne, Jacob-Holtzer). Apparatus for forging a crankshaft or similary shaped part. 2,999,298, 9–12–61, Cl. 29—6.
De Frangesco, Ralph D., to Arrow Tools, Inc. Axial impact tool and work-retainer combination. 2,999,407, 9–12–61, Cl. 81—52.35.
De Ganahl, Charles. Baled hay stacker. 2,999,608, 9–12–61, Cl. 214—654.
De Jarnett, Frank D., ½ to P. A. Medearis. Apparatus for moving pipe into and out of an oil well derrick. 2,999,605, 9–12–61, Cl. 214—2.5.
Dennison Mfg. Co.: *See*—
McDermott, William J. 2,999,626.
Dersch, Fritz, to General Aniline & Film Corp. Chemical sensitizing of photographic silver halide emulsions. 2,999,751, 9–12–61, Cl. 96—107.
Dettman, Fred C. Tine rake. 2,999,350, 9–12–61, Cl. 56—400.17.
Deutsche Solvay-Werke G.m.b.H.: *See*—
Faerber, Gerhard. 2,999,832.
De Vries, Andrian J., and W. S. Druz, to Zenith Radio Corp. Signal translating apparatus. 2,999,900, 9–12–61, Cl. 179—1.5.
Dickison, Harry L.: *See*—
Wheatley, William B., and Dickison. 2,999,880.
Diehl, G. M., Machine Works, Inc., The: *See*—
Mowrey, Orville E., and Miller. 2,999,518.
Diemer, Gesinus: *See*—
Klasens, Hendrik A., Diemer, and Stap. 2,999,942.
Dille, Roger M., R. W. Chapman, and J. C. Ahlborn, to Texaco Inc. Production of carbon monoxide and hydrogen. 2,999,741, 9–12–61 Cl. 48—196.
Di Pietro, Anthony R. Game apparatus. 2,999,692, 9–12–61, Cl. 273—97.
Distillers Co. Ltd., The: *See*—
Crocker, Henry P., and Turck. 2,999,888.
Ditto, Inc.: *See*—
Roberts, John R. 2,999,453.
Dixon, Elmer F.: *See*—
Logan, Hugh H., Nelson, Dixon, and Taube. 2,999,248.
Dodge, Adiel Y. Variable speed drive. 2,999,574, 9–12–61, Cl. 192—3.5.
Dodge Mfg. Corp.: *See*—
Firth, David. 2,999,394.
Doll, Lois: *See*—
Buckler, Sheldon A., and Doll. 2,999,882.
Dombrow, Bernard A., to Nopco Chemical Co. Foamed alkyd-polyisocyanate plastics. 2,999,823, 9–12–61, Cl. 260—2.5.
Donaldson, Robert D., to General Aniline & Film Corp. Alkali metal salts of α,α'-anthraquinone disulfonates. 2,999,869, 9–12–61, Cl. 260—370.
Dorendorf, Heinz, and H. Henker, to Siemens & Halske Aktiengesellschaft. Method of producing differentiated doping zones in semiconductor crystals. 2,999,776, 9–12–61, Cl. 148—1.6.
Dornbreck, George L.: *See*—
Sterling, John G., and Dornbreck. 2,999,267.
Doty, Kenneth G.: *See*—
Logan, Hugh H., Doty, and Nelson. 2,999,249.
Douglas, Bradley C.: *See*—
Kincaid, George F., Douglas, and Gay. 2,999,912.
Douty, Alfred: *See*—
Schell, James H., Douty, and Faigen. 2,999,811.
Dow Chemical Co., The: *See*—
Crabb, Clarence R., Hughes, and McDonald. 2,999,886.
Downs, Martin L., and R. A. Nelson, to Thilmany Pulp & Paper Co. Machine glazed paper. 2,999,786, 9–12–61, Cl. 162—129.
Downs, Martin L., and R. A. Nelson, to Thilmany Pulp & Paper Co. Machine glazed paper. 2,999,787, 9–12–61, Cl. 162—135.
Draper Corp.: *See*—
Nichols, Edward C., and Powell. 2,999,516.
Dresser Industries, Inc.: *See*—
Dunn, Robert, and Goerss. 2,999,702.
Stroman, Larry J. 2,999,972.
Drever, James R., E. C. Kavanaugh, and J. E. Bossong, to Griffin Wheel Co. Apparatus for making castings. 2,999,281, 9–12–61, Cl. 22—64.
Dreyfus, Marc G.: *See*—
Bible, Robert E., Dreyfus, Parker, and Williamson. 2,999,939.
Druz, Walter S.: *See*—
De Vries, Adrian J., and Druz. 2,999,900.
Dryer, Peter J., and D. C. Harding; said Dryer assor. to Boyne Products, Inc., and said Harding assor. to Don R. Ford Associates, Inc. Direction signaling apparatus. 2,999,911, 9–12–61, Cl. 200—61.34.
Duane, Jerome J., and D. B. Tarnoff, to D. B. Tarnoff. Saturated pad for cleaning and deodorizing. 2,999,265, 9–12–61, Cl. 15—506.
Du Bois, Robert C., to Manning, Maxwell & Moore, Inc. Test instrument of the dial type. 2,999,478, 9–12–61, Cl. 116—129.
Du Bois, Robert C., to Manning, Maxwell & Moore, Inc. Suppression device for narrow spans. 2,999,508, 9–12–61, Cl. 137—85.
Dudash, Michael A., to General Motors Corp. Ball and socket joint. 2,999,708 9–12–61, Cl. 287—87.
Duesenberg, Denny D., to Ford Motor Co. Valve stem seal. 2,999,492, 9–12–61, Cl. 123—188.
Dunn, Robert, and F. A. Goerss, to Dresser Industries, Inc. Shaft seal with positive automatic shut-down feature. 2,999,702, 9–12–61, Cl. 286—8.
Dunwody, Archibald B. Method and apparatus for the segregation of particulate material. 2,99,596, 9–12–61, Cl. 209—467.
Du Pont de Nemours, E. I., and Co.: *See*—
Arvidson, Harold C., Jr., and Blake. 2,999,839.
Bell, Richard W., Csendes, and McShane. 2,999,840.
Bennett, Edward J., and Parmelee. 2,999,816.
Bower, Frank A. 2,999,817.
Breen, Alvin L., and Pamm. 2,999,296.
Breza, Cyril J., and Davis. 2,999,743.
Burk, Robert E., and Price. 2,999,772.
Cacella, Arthur F., and White. 2,999,760.
Coursen, David L. 2,999,458.
Csendes, Ernest. 2,999,841.

Du Pont de Nemours, E. I., and Co.: *See*—Continued.
Csendes, Ernest. 2,999,842.
Eiseman, Bernhardt J., Jr. 2,999,680.
Eiseman, Bernhardt J., Jr. 2,999,815.
Finlay, Joseph B. 2,999,887.
Heberling, Jack W., Jr. 2,999,885.
Krahler, Stanley E. 2,999,812.
Ludwig, Richard E. 2,999,836.
Miegel, Ralph E. 2,999,855.
Miller, Henry C., and Muetterties. 2,999,864.
Morgan, Paul W. 2,999,788.
Porck, Alfred J. 2,999,843.
Quinn, James M., and Schneider. 2,999,838.
Stinger, Henry J., and Urban. 2,999,460.
Weinmayr, Viktor. 2,999,884.
Young, Thomas E. 2,999,820.
Durham, Delbert. Fishing rod holders. 2,999,622, 9–12–61, Cl. 224—45.
Duval, Claiborne A., Jr., to Socony Mobil Oil Co., Inc. Caustic economy and avoidance of pollution. 2,999,803, 9–12–61, Cl. 208—39.
Eagle, John H.: *See*—
Nerwin, Hubert, and Eagle. 2,999,439.
Eastman Kodak Co.: *See*—
Harter, Paul, and Staudt. 2,999,435.
Hutchison, Miller R., Jr., O'Brien, and Marvin. 2,999,441.
Nerwin, Hubert. 2,999,438.
Nerwin, Hubert. 2,999,440.
Nerwin, Hubert, and Eagle. 2,999,439.
Easton, Robert D.: *See*—
Young, Clarence R., and Easton. 2,99,242.
Eaton Stamping Co.: *See*—
Hamman, Lyle J. 2,999,490.
Ebauches S.A.: *See*—
Beyner, Andre, and Besson. 2,999,966.
Eberhart, Arthur H., to Westinghouse Electric Corp. Air conditioning apparatus. 2,999,370, 9–12–61, Cl. 62—325.
Eccles, George O., to Rolls-Royce Ltd. Blades for gas turbine engines. 2,999,303, 9–12–61, Cl. 29—156.8.
Eckels, Warren H., to Hercules Powder Co. Plastic explosive compositions. 2,999,744, 9–12–61, Cl. 52—5.
Eclipse Metal Mfg. Corp.: *See*—
Richardson, Robert L. 2,999,494.
Edeleanu Gesellschaft m.b.H.: *See*—
Hoppe, Alfred. 2,999,857.
Ehrenreich, A., & Cie: *See*—
Latzen, Josef H. 2,999,710.
Elgner, Harold E., and C. E. Imhoff, to Allis-Chalmers Mfg. Co. Method of removing residual oxygen from water conditioning systems. 2,999,809, 9–12–61, Cl. 210—48.
Elmco Corp., The: *See*—
Schwartz, Daniel M. 2,999,553.
Einsel, Robert P., to Industrial Nucleonics Corp. Product analysis. 3,000,003, 9–12–61, Cl. 340—172.5.
Eisele, Franz J.: *See*—
Eitel, Max, and Eisele. 2,999,798.
Eiseman, Bernhardt J., Jr., to E. I. du Pont de Nemours and Co. Pneumatic spring suspension. 2,999,680, 9–12–61, Cl. 267—64.
Eiseman, Bernhardt J., Jr., to E. I. du Pont de Nemours and Co. Azeotropic composition. 2,999,815, 9–12–61, Cl. 252—171.
Eitel, Max, and F. J. Eisele, to Daimler-Benz Aktiengesellschaft. Method of producing a wear-resisting surface on a metal element. 2,999,798, 9–12–61, Cl. 204—34.
Elberty, Robert S., to J. Breslav. Rollover grabs. 2,999,716, 9–12–61, Cl. 294—86.
Elder Mfg. Co.: *See*—
Rowan, John G. 2,999,246.
Eldredge, Kenneth R., to General Electric Co. Automatic reading system. 3,000,000, 9–12–61, Cl. 340—149.
Electric & Musical Industries Ltd.: *See*—
Quinn, Stanley F. 2,999,896.
Electric Storage Battery Co., The: *See*—
Casserly, John P. 2,999,893.
Fritzinger, George H., and Jaffe. 2,999,969.
Matheson, James N. 2,999,498.
Elektrokemisk A/S: *See*—
Basen, Toralv. 2,999,748.
Wleugel, Johan. 2,999,801.
Elling, Albert W. Reaction motor. 2,999,357, 9–12–61, Cl. 60—39.34.
Elmer, Otto C., to The General Tire & Rubber Co. Isocyanate extension of very high molecular weight polyesters. 2,999,851, 9–12–61, Cl. 260—75.
Emmel, Henry J., to Bausch & Lomb Inc. Slide projection apparatus. 2,999,425, 9–12–61, Cl. 88—28.
Emmert, George W., to FEDCO Corp. Tape dispenser. 2,999,313, 9–12–61, Cl. 30—124.
Engelhard Industries, Inc.: *See*—
Keith, Carl D. 2,999,586.
Erhardt, John E., Jr., and E. M. Siegel, to Selas Corp. of America. Pre-heater or furnace assembly. 2,999,675, 9–12–61, Cl. 263—3.
Ericson, Sidney A., and H. W. Parrott, to The Bassick Co. Locking arrangement for swivel chair structure. 2,999,665, 9–12–61, Cl. 248—405.
Escher Wyss G.m.b.H.: *See*—
Hullmann, Heinrich. 2,999,538.
Hullmann, Heinrich. 2,999,784.
Esso Research and Engineering Co.: *See*—
Gleason, Anthony H., and Slotterbeck. 2,999,891.
Estey, Melvin E., to Perfect Circle Corp. Piston ring assembly. 2,999,728, 9–12–61, Cl. 309—45.
Etablissements A Cazeneuve: *See*—
Bruet, Henri R. 2,999,404.
Ethyl Corp.: *See*—
Heron, Sam D. 2,999,739.
Estrada, Raymond. Shining and polishing device. 2,999,257, 9–12–61, Cl. 15—24.
Evans, Edwin R. Disk brake. 2,999,565, 9–12–61, Cl. 188—72.
Evans, Howard H.: *See*—
McDonald, James A., and Evans. 2,999,311.
Ewart, John C., to A. O. Smith Corp. Apparatus for radially compressing articles. 2,999,405, 9–12–61, Cl. 78—14.
Ewing, Ewell F. Grain conditioning apparatus. 2,999,676, 9–12–61, Cl. 263—19.
FEDCO Corp.: *See*—
Emmert, George W. 2,999,313.
Faerber, Gerhard, to Deutsche Solvay-Werke G.m.b.H. Method of manufacturing dyed, hardened, resinous products of condensates. 2,999,832, 9–12–61, Cl. 260—27.
Fahlenberg, Paul, to Compur-Werk Friedrich Deckel OGH. Photographic shutter. 2,999,445, 9–12–61, Cl. 95—63.
Faigen, Harry L.: *See*—
Schell, James H., Douty, and Faigen. 2,999,811.
Falako Corp., The: *See*—
Lauer, Paul H. 2,999,279.
Falck, Holger B. M. Venetian blinds. 2,999,537, 9–12–61, Cl. 160—173.
Falcon Plastics Co.: *See*—
Andelin, John. 2,999,387.
Falk, Richard B.: *See*—
Yamartino, Ernest J., and Falk. 2,999,777.
Falk, Richard B., G. L. Hatinger, and G. D. Hooper, to General Electric Co. Magnetic material. 2,999,271, 9–12–61, Cl. 18—16.5.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Boresch, Carl. 2,999,768.
Graulich, Wilhelm, Sinn, Nottebohn, and Schabert. 2,999,773.
Muller, Erwin, and Bayer. 2,999,844.
Schrader, Gerhard. 2,999,874.
Weber, Horst, and Podschus. 2,999,734.
Wehn, Julius, and Rumpf. 2,999,563.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Bestian, Herbert, and Lange. 2,999,856.
Faulhaber, Fritz, to Voigtlander A.G. Process and device for automatically adjusting optical instruments. 2,999,436, 9–12–61, Cl. 95—10.
Faülhaber, Fritz. Commutator for miniature motors. 2,999,956, 9–12–61, Cl. 310—235.
Ferguson, John H., Jr., to The Bendix Corp. Combustion starter having torque sensing control. 2,999,356, 9–12–61, Cl. 60—39.14.
Ferris, Arthur F., and H. K. Latourette, to Food Machinery and Chemical Corp. Preparation of amino acids. 2,999,875, 9–12–61, Cl. 260—465.4.
Ferro Stamping Co.: *See*—
Pickles, Joseph. 2,999,683.
Filberich, Ludwig, to Siemens-Schuckertwerke Aktiengesellschaft. Ignition and excitation circuit for single-anode pool-type discharge vessels. 2,999,961, 9–12–61, Cl. 315—168.
Fink, Robert W.: *See*—
Baillif, Ernest A., and Fink. 2,999,372.
Finlay, Joseph B., to E. I. du Pont de Nemours and Co. Preparation of a C_4H_3Cl compound from a solution of copper chloride and hydrogen chloride saturated with acetylene. 2,999,887, 9–12–61, Cl. 260—654.
Fireless Gas Heater Corp.: *See*—
Wagner, Hans. 2,999,534.
Firestone, Vance S., to Pittsburgh Plate Glass Co. Vacuum release apparatus. 2,999,715, 9–12–61, Cl. 294—64.
Firma Fr. Hesser, Maschinenfabrik-Aktiengesellschaft: *See*—
Reinhardt, Fritz. 2,999,627.
Firth, David, to Dodge Mfg. Corp. Conveyor pulley or the like. 2,999,394, 9–12–61, Cl. 74—230.8.
Fisher, Sallie A., to Rohm & Haas Co. Regeneration of anion-exchange resins. 2,999,821, 9–12–61, Cl. 260—2.1.
Fishpaw, Arthur L., and G. P. McAvoy, to The Martin Co. Control apparatus for aircraft having thrust reversing means. 2,999,355, 9–12–61, Cl. 60—35.54.
Fleck, Raymond N., and C. G. Wight, to Union Oil Co. of California. Segregation of organic nitrogen compounds. 2,999,861, 9–12–61, Cl. 260—290.
Flexible Steel Lacing Co.: *See*—
McComb, Frank E. 2,999,284.
Flight Refuelling Ltd.: *See*—
Macgregor, Peter S., and Keeley. 2,999,602.
Floyd, Don E.: *See*—
Peerman, Dwight E., and Floyd. 2,999,826.
Floyd, Don E., and D. E. Peerman, to General Mills Inc. Epoxy-polyamide-ester resin reaction product. 2,999,825, 9–12–61, Cl. 260—18.
Flynn, Edward J., to General Electric Co. Dynamoelectric machine cooling. 2,999,951, 9–12–61, Cl. 310—54.
Food Machinery and Chemical Corp.: *See*—
Ferris, Arthur F., and Latourette. 2,999,875.
Ford, Don R.: *See*—
Dryer, Peter J., and Harding. 2,999,911.
Ford Motor Co.: *See*—
Bleuenstein, Julius M. 2,999,833.
Bryan, Ford R. 2,999,383.
Duesenberg, Denny D. 2,999,492.
Lusznat, Johannes. 2,999,484.
Forsyth, Galen E.: *See*—
Cottingham, Morrison, and Forsyth. 2,999,469.
Foster, Donald J., and D. E. Reed, to Union Carbide Corp. Recovery of quinoline. 2,999,794, 9–12–61, Cl. 202—42.
Foster, Donald J., and E. Tobler, to Union Carbide Corp. Divinylmagnesium and method of making. 2,999,889, 9–12–61, Cl. 260—665.
Foster, George B., to Industrial Nucleonics Corp. Convertible radiation source. 2,999,935, 9–12–61, Cl. 250—83.3.

Fowell, Alfred H., to Cutter Laboratories. Process of producing mixture of PTC, proconvertin and prothrombin. 2,999,791, 9–12–61, Cl. 167—74.

Fox, Fred K. Tubular drill string member. 2,999,552, 9–12–61, Cl. 175—323.

Fox Products Co.: *See*—
Medlar, Lewis A. 2,999,973.

Francis, Kenneth E., and F. M. Alexander, to Industrial Nucleonics Corp. Nuclear magnetic resonance measuring and control device. 2,999,976, 9–12–61, Cl. 324—.5.

Franks, Russell M.: *See*—
Saunders, Earle R., Franks, and Beiser. 2,999,749.

Franzus, Boris, to Phillips Petroleum Co. Inhibition of mold corrosion for quaternized polymers. 2,999,837, 9–12–61, Cl. 260—45.7.

Fredd, John V., to Otis Engineering Corp. Release assembly for tubing caliper. 2,999,320, 9–12–61, Cl. 33—178.

Freebairn, Darwin L., and J. M. Slater, to North American Aviation, Inc. Self-compensating gyro apparatus. 2,999,391, 9–12–61, Cl. 74—5.37.

Freyermuth, Harlan B.: *See*—
Bloom, Albert, Freyermuth, and Normington. 2,999,873.

Frichette, Roswell S., Jr., to American Brake Shoe Co. Friction couples. 2,999,564, 9–12–61, Cl. 188—71.

Friedell, Morley V., to C. A. Norgren Co. Liquid level responsive device. 2,999,913, 9–12–61, Cl. 200—84.

Fritzinger, George H., and S. S. Jaffe, to The Electric Storage Battery Co. Signaling arrangements for battery charging circuit. 2,999,969, 9–12–61, Cl. 320—48.

Frostick, Frederick C., Jr.: *See*—
Phillips, Benjamin, and Frostick. 2,999,865.

Fuller, Frederick J., to P. R. Mallory & Co. Inc. Unwinding device. 2,999,654, 9–12–61, Cl. 242—128.

Fuller, Richard H.: *See*—
Stern, Joseph M., and Fuller. 2,999,983.

Gabrielson, Harold M., ½ to Pentecostal Church of God. Amusement riding device for children. 2,999,688, 9–12–61, Cl. 272—33.

Gadget-Of-The-Month Club, Inc.: *See*—
Barnett, Lee A. 2,999,335.
McAllister, John W. and E. C. 2,999,321.

Gallo, Elia A., and W. F. Payne, to Curtiss-Wright Corp. Variable area nozzle. 2,999,354, 9–12–61, Cl. 60—35.6.

Ganz, Henry, to Johnson & Johnson. Machine for winding log roll. 2,999,653, 9–12–61, Cl. 242—56.

Gapp, Roland H., to Townsend Co. Rivet setting tool. 2,999,610 9–12–61, Cl. 218—35.

Garabello, Giuseppe. Remote-controlled device for closing and opening fuel-tanks of motor-vehicles. 2,999,613, 9–12–61, Cl. 220—86.

Gaser, Jacob: *See*—
Riley, Thomas, Zaas, Gaser, and Strmac. 2,999,430.

Gates, Earl. Compensating telescopic boom. 2,999,600, 9–12–61, Cl. 212—55.

Gault, Kenneth W., to The William L. Bonnell Co., Inc. Anodizing racks. 2,999,802, 9–12–61, Cl. 204—297.

Gaver, Kenneth M.: *See*—
Witwicka, Irena E., Pavuk, and Gaver. 2,999,753.

Gay, Benjamin A.: *See*—
Kincaid, George F., Douglas, and Gay. 2,999,912.

Gaynes, Norman I. Chrome plating and anodizing stopoff composition. 2,999,771, 9–12–61, Cl. 117—132.

Geer, Charles W., to Hoffman Electronics Corp. Self-orienting heliotropic device for solar energy converter panels. 2,999,943, 9–12–61, Cl. 250—215.

Geiger, Georg, to Sandoz Ltd. Process for converting crude copper phthalocyanine into finely divided β-form. 2,999,862, 9–12–61, Cl. 260—314.

Gelenkwellenbau, G.mb.H.: *See*—
Kleinschmidt, Hans-Joachim. 2,999,374.

General American Transportation Corp.: *See*—
Gutzeit, Gregoire. 2,999,770.

General Aniline & Film Corp.: *See*—
Bloom, Albert. 2,999,745.
Bloom, Albert, Freyermuth, and Normington. 2,999,873.
Dersch, Fritz. 2,999,751.
Donaldson, Robert D. 2,999,869.
Hessel, Frederick A. 2,999,746.
Perry, William M. 2,999,853.
Renfrew, Edgar E., and Buc. 2,999,852.
Schenck, Leslie M. 2,999,871.

General Corrugated Machinery Co., Inc.: *See*—
Keely, Clifford D., and Baisley. 2,999,342.

General Electric Co.: *See*—
Eldredge, Kenneth R. 3,000,000.
Falk, Richard B., Hatinger, and Hooper. 2,999,271.
Flynn, Edward J. 2,999,951.
Goldberg, Eugene P. 2,999,835.
Goldberg, Eugene P. 2,999,845.
Mendelsohn, Lewis I. 2,999,778.
Warren, Robert E., Nagel, Neumann, and Jensen. 2,999,630.
Wollmershauser, Charles. 2,999,631.
Yamartino, Ernest J., and Falk. 2,999,777.

General Mills, Inc.: *See*—
Floyd, Don E., and Peerman. 2,999,825.
Peerman, Dwight E., and Floyd. 2,999,826.

General Motors Corp.: *See*—
Adams, Fred. 2,999,567.
Dudash, Michael A. 2,999,708.
Kelley, Oliver K. 2,999,400.
Levy, Irving M. 2,999,953.
Levy, Irving M. 2,999,954.
Levy, Irving M. 2,999,955.
Naudzius, Edward J. 2,999,566.

General Precision, Inc.: *See*—
Bible, Robert E., Dreyfus, Parker, and Williamson. 2,999,939.
Hemstreet, Harold S. 2,999,322.

General Refractories Co.: *See*—
Heuer, Russell P. 2,999,759.

General Tire & Rubber Co., The: *See*—
Elmer, Otto C. 2,999,851.
Gruber, Elbert E., and Kalafus. 2,999,830.
Pfau, Emert S., Swart, and Weinstock. 2,999,822.

George, Charles B.: *See*—
Kahler, Harry L., and George. 2,999,732.

Gerentes, Jean, to Constructions Electro-Mecaniques de Saint-Etienne (Ancienne Usine Wageor). Drilling machine. 2,999,550, 9–12–61, Cl. 175—33.

Gerhardt, Gerard E., to American Cyanamid Co. Minimum diameter measurement by digital flying spot scanner. 2,999,590, 9–12–61, Cl. 209—82.

Giles, Benjamin F. Clamping device. 2,999,290, 9–12–61, Cl. 24—252.

Gillespie, Alice M. Combination cigarette package and ash receiver. 2,999,584, 9–12–61, Cl. 206—41.

Givens, Richard C., and M. R. Hefty, to Texaco Inc. Lubricant comprising a sulfurized mineral oil and a polyvalent metal dithiocarbamate. 2,999,813, 9–12–61, Cl. 252—33.6.

Glass, Henry P. Collapsible shelter using bellows-like sections. 2,999,507, 9–12–61, Cl. 135—1.

Gleason, Anthony H., and O. C. Slotterbeck, to Esso Research and Engineering Co. Removing alkali metal catalysts from polymers. 2,999,891, 9–12–61, Cl. 260—669.

Gleason Works, The: *See*—
Carlsen, Leonard O. 2,999,429.

Gleckler, George C., and G. L. Sutherland, to American Cyanamid Co. Acrylamide monomer polymerization inhibitor. 2,999,881, 9–12–61, Cl. 260—561.

Glembring, Allan G. O. Improvements in apparatus for receiving, assorting and storing of empty milk bottles and the like. 2,999,576, 9–12–61, Cl. 194—4.

Glickman, Mannes N. Holders for electrical devices. 2,999,964, 9–12–61, Cl. 317—234.

Goerss, Frederick A.: *See*—
Dunn, Robert, and Goerss. 2,999,702.

Goldberg, Eugene P., to General Electric Co. Resinous mixture comprising organopolysiloxane and polymer of a carbonate of a dihydric phenol, and products containing same. 2,999,835, 9–12–61, Cl. 260—42.

Goldberg, Eugene P., to General Electric Co. Copolymer containing polycarbonate and polysiloxy constituents. 2,999,845, 9–12–61, Cl. 260—47.

Gollwitzer, George E., to Kelsey-Hayes Co. Blank severing machine. 2,999,409, 9–12–61, Cl. 83—91.

Goode, Robert W.: *See*—
Petersen, Gerald A. M., Goode, and Gustafson. 2,999,655.

Gossen, P., & Co. G.m.b.H.: *See*—
Hautmann, Heinrich, and Pfaffenberger. 2,999,446.

Granqvist, Carl-Erik, to Svenska Aktiebolaget Gasaccumulator. Gyroscope device with vibrating gas particles or particles of another sound transferring medium. 2,999,389, 9–12–61, Cl. 73—505.

Graulich, Wilhelm, G. Sinn, C. Nottebohn, and R. Schabert, ½ to Farbenfabriken Bayer Aktiengesellschaft and ½ to Carl-Freudenberg KG. a.A. Process for the production of sheet materials. 2,999,773, 9–12–61, Cl. 117—139.5.

Green, Charles F., to United States of America, War. Radiation responsive means. 2,999,933, 9–12–61, Cl. 250—83.

Greene, Donald F.: *See*—
Stroud, Malcolm B., and Greene. 2,999,555.

Greve, Horst E.: *See*—
Hornschuch, Hanns, and Greve. 2,999,466.

Griffin Wheel Co.: *See*—
Drever, James R., Kavanaugh, and Bossong. 2,999,281.

Grimmer, George G., and H. B. Schramm, to Otis Engineering Corp. Side port valve assembly well tools. 2,999,546, 9–12–61, Cl. 166—224.

Gronemeyer, Erich, and S. Cherba, to Peerless Tube Co. Apparatus for molding hollow plastic articles. 2,999,273, 9–12–61, Cl. 18—30.

Gross, Joseph P., and E. G. Perkie. Archery finger tabs. 2,999,243, 9–12–61, Cl. 2—21.

Groves, James D., to British Titan Products Co. Ltd. Chlorination processes. 2,999,733, 9–12–61, Cl. 23—87.

Gruber, Elbert E., and E. F. Kalafus, to The General Tire & Rubber Co. Composition comprising a refractory material and a polymethacrolein reaction product and method of producing thereof. 2,999,830, 9–12–61, Cl. 260—29.6.

Guarnaschelli, Vincent. Means for increasing fuel combustion efficiency in internal combustion engines. 2,999,486, 9–12–61, Cl. 123—122.

Gumtow, Herbert A.: *See*—
Coughlin, Charles L., Gumtow, Svendsen, and Brown. 2,999,489.

Gustafson, Herschel R.: *See*—
Petersen, Gerald A. M., Goode, and Gustafson. 2,999,655.

Gustin, Robert: *See*—
Munson, Donald J., and Gustin. 2,999,325.

Gutzeit, Gregoire, to General American Transportation Corp. Processes of chemical nickel plating and baths therefor. 2,999,770, 9–12–61, Cl. 117—130.

Haag-Streit A.G.: *See*—
Papritz, Hans. 2,999,422.

Habenicht, August F. Hydraulic pump apparatus. 2,999,360, 9–12–61, Cl. 60—51.

Hagen, Glenn E., to Alwac International Inc. Computer. 2,999,636, 9–12–61, Cl. 235—167.

Haggard, Bert E. Arrow holding attachment. 2,999,620, 9–12–61, Cl. 224—1.

Hahn, Erich and W., and R. Noack, to VEB Kamera- und Kinowerke Dresden. Photographic shutters. 2,999,437, 9–12–61, Cl. 95—10.

Hahn, Werner: *See*—
Hahn, Erich and W., and Noack. 2,999,437.

Hall, Charles T.: *See*—
Chalmers, John W., Hall, and Roffey. 2,999,345.
Haller, John, and L. W. Alexander. Tolerance ring. 2,999,704, 9–12–61, Cl. 287—52.
Halliburton Co.: *See*—
Smith, Edward W., and Copland. 2,999,557.
Hamilton, William C., and H. W. Austin, to Mine Safety Appliances Co. Breathing apparatus hose restrainer. 2,999,497, 9–12–61, Cl. 128—142.
Hamman, Lyle J., to Eaton Stamping Co. Spring starter. 2,999,490, 9–12–61, Cl. 123—179.
Hammes, Dorothy C.: *See*—
Hammes, Frederic J. 2,999,952.
Hammes, Frederic J., ½ to D. C. Hammes, and ¼ to J. A. Stinson. Synchronous motor. 2,999,952, 9–12–61, Cl. 310—154.
Handler, Frank. Sun visor. 2,999,718, 9–12–61, Cl. 296—97.
Handschumaker, Edward, and H. G. Hoyer, to Spencer Kellogg and Sons, Inc. Fluid shortening and method of making the same. 2,999,755, 9–12–61, Cl. 99—118.
Haneberg, Richard H. Flat file hooded gas lighter. 2,999,376, 9–12–61, Cl. 67—6.1.
Hanes Hosiery Mills Co.: *See*—
Beamon, Howard L. 2,999,470.
Hanke, Joseph. Lens supporting and positioning means. 2,999,426, 9–12–61, Cl. 88—51.
Hankison Corp.: *See*—
Hankison, Paul M., and Walker. 2,999,509.
Hankison, Paul M., and W. F. Walker, to Hankison Corp. Device for automatically valving liquid. 2,999,509, 9–12–61, Cl. 137—195.
Hann, Arthur, H. R. Legge, and F. A. Richards, to Hunting Engineering Ltd. Machines. 2,999,938, 9–12–61, Cl. 250—202.
Hansen, Omar, Jr.: *See*—
Clanin, Richard D., and Hansen. 2,999,344.
Hansford, Reginald F., and E. Parker, to The Decca Record Co. Ltd. Radar systems. 3,000,007, 9–12–61, Cl. 343—5.
Hanson, Ellis P.: *See*—
Higonnet, Rene A., Moyroud, and Hanson. 2,999,434.
Harding, Arthur J. I., to Woodlyn Corp. Dyeing of normal wool. 2,999,731, 9–12–61, Cl. 8—54.
Harding, Douglas C.: *See*—
Dryer, Peter J., and Harding. 2,999,911.
Hardison, Wilbur T.: *See*—
Bourns, Marlan E., Hardison, and O'Brian. 2,999,994.
Hardy, Thomas A. Disposable wrapper for cooking food. 2,999,452, 9–12–61, Cl. 99—402.
Harkness, Joseph R., to Briggs & Stratton Corp. Internal combustion engine and method of operating the same to obtain compression reduction during cranking. 2,999,491, 9–12–61, Cl. 123—182.
Harms, Harold H. Backwash filtering system. 2,999,597, 9–12–61, Cl. 210—333.
Harris, James L. Developing machine. 2,999,447, 9–12–61, Cl. 95—94.
Harshman, Daniel L., to Curtiss-Wright Corp. Fluid mixing apparatus. 2,999,672, 9–12–61, Cl. 259—4.
Hartel, Walter: *See*—
Hoffmann, Arnulf, and Hartel. 2,999,940.
Harter, Paul, and E. Staudt, to Eastman Kodak Co. Automatic exposure control for photographic cameras. 2,999,435, 9–12–61, Cl. 95—10.
Hatinger, Gerald L.: *See*—
Falk, Richard B., Hatinger, and Hooper. 2,999,271.
Hauptvogel, Herbert, and E. Korf, to VEB Kamera- und Kinowerke Dresden. Electric drives for photographic enlarging and reproducing apparatus. 2,999,423, 9–12–61, Cl. 88—24.
Hautmann, Heinrich, and E. Pfaffenberger, to P. Gossen & Co. G.m.b.H. Automatic iris control and indicating unit for cameras. 2,999,446, 9–12–61, Cl. 95—64.
Haven Mfg. Corp.: *See*—
Williamson, Robert W. 2,999,526.
Haydn, Hildegard: *See*—
Miller, Alfred, and Haydn. 2,999,750.
Haydon, Arthur W., and H. T. Winchel, to Consolidated Electronics Industries Corp. Portable clock-radio alarm system. 2,999,928, 9–12–61, Cl. 250—20.
Hayward, L. Stanley: *See*—
Kingsley, David G., and Hayward. 2,999,615.
Kingsley, David G., Rice, and Hayward. 2,999,614.
Heberling, Jack W., Jr., to E. I. du Pont de Nemours and Co. Purification of fluorocarbons. 2,999,885, 9–12–61, Cl. 260—648.
Heckethorn, John E., to Heckethorn Mfg. & Supply Co. Auxiliary spring suspensions. 2,999,678, 9–12–61, Cl. 267—8.
Heckethorn Mfg. & Supply Co.: *See*—
Heckethorn, John E. 2,999,678.
Hedges, Carl D. Foldable stretcher. 2,999,251, 9–12–61, Cl. 5—82.
Hefty, Melvin R.: *See*—
Givens, Richard C., and Hefty. 2,999,813.
Heller, Laszlo, and A. Bakay, to Licencia Talalmanyokat Ertekesito Vallalat. Process of and apparatus for cooling electrical generators. 2,999,945, 9–12–61, Cl. 290—2.
Hellingman, Evert, C. J. M. van der Laan, and K. Roozendaal, to North American Philips Co., Inc. Method and devices for separating components from a gas-and/or vapour mixture. 2,999,364, 9–12–61, Cl. 62—6.
Hemstreet, Harold S., to General Precision Inc. Visual display method and apparatus. 2,999,322, 9–12–61, Cl. 35—12.
Henatsch, Reynold. Call transmitting devices. 2,999,903, 9–12–61, Cl. 179—90.
Henker, Heinz: *See*—
Dorendorf, Heinz, and Henker. 2,999,776.
Henschel-Werke G.m.b.H.: *See*—
Schindler, Karl. 2,999,677.
Hensler, Joseph R., to Bausch & Lomb Inc. Method of providing an electrically conductive surface. 2,999,339, 9–12–61, Cl. 49—77.
Hercules Powder Co.: *See*—
Eckels, Warren H. 2,999,744.
Herman, Martin A. Apparatus to center articles in a matrix. 2,999,282, 9–12–61, Cl. 22—116.
Heron, Sam D., to Ethyl Corp. Antiknock fluids. 2,999,739, 9–12–61, Cl. 44—69.
Herron, O. D.: *See*—
Williamson, Robert W. 2,999,526.
Herron, Thomas F., Jr., to Western Electric Co., Inc. Electrical probe. 2,999,388, 9–12–61, Cl. 73—432.
Herstedt, Martin E. Combination nail clipper and tweezers. 2,999,505, 9–12–61, Cl. 132—73.5.
Herzog, Gerhard, and G. M. Wood, to Texaco Inc. Radiation well logging. 2,999,936, 9–12–61, Cl. 250—83.3.
Hessel, Frederick A., to General Aniline & Film Corp. Suppressing potato sprouting by the vapors of dipropargyl ether. 2,999,746, 9–12–61, Cl. 71—2.7.
Heuer, Charles H., and J. L. Rennick, to Zenith Radio Corp. Luminance amplifier. 2,999,897, 9–12–61, Cl. 178—5.4.
Heuer, Russell P., to General Refractories Co. Magnesia brick. 2,999,759, 9–12–61, Cl. 106—58.
Heywood, Donald L.: *See*—
Phillips, Benjamin, Starcher, and Heywood. 2,999,868.
Higonnet, Rene A., L. M. Moyroud, and E. P. Hanson, to said Higonnet and said Moyroud. Apparatus for type composition. 2,999,434, 9–12–61, Cl. 95—4.5.
Hinckley, John D. Earth anchor. 2,999,572, 9–12–61, Cl. 189—91.
Hodgkinson, W. S., & Co. Ltd.: *See*—
Quinn, Paul. 2,999,789.
Hodogaya Kagaku Kogyo Kabushiki Kaisha: *See*—
Terai, Tomio, and Takamatsu. 2,999,783.
Hoese, Robert H. Sales promotional cards. 2,999,698, 9–12–61, Cl. 283—6.
Hoffman Electronics Corp.: *See*—
Geer, Charles W. 2,999,943.
Hoffmann, Arnulf, and W. Hartel, to Siemens-Schuckertwerke Aktiengesellschaft. Encapsuled photoelectric semiconductor device. 2,999,940, 9–12–61, Cl. 250—211.
Hofmann, Eberhard: *See*—
Stier, Reinhardt, and Hofmann. 2,999,487.
Holbrook, George W., to Canada, Her Majesty the Queen in the right of, as represented by the Minister of National Defense. Method of correcting non-linear distortion. 2,999,986, 9–12–61, Cl. 330—149.
Holden, Martin P., to Underwood Corp. Ribbon change package. 2,999,578, 9–12–61, Cl. 197—151.
Hollerith, Otto: *See*—
Howald, Werner E., and Hollerith. 2,999,668.
Hommel, William B., to American Can Co. Sheet feeder. 2,999,687, 9–12–61, Cl. 271—18.
Honn, Francis J., and W. M. Sims, to Minnesota Mining and Mfg. Co. Fluorinated elastomers and cross linking thereof. 2,999,854, 9–12–61, Cl. 260—79.5.
Honore, Etienne: *See*—
Torcheux, Emile, and Honore. 2,999,919.
Hooper, George D.: *See*—
Falk, Richard B., Hatinger, and Hooper. 2,999,271.
Hoppe, Alfred, to Edeleanu Gesellschaft m.b.H. Process for the separation of N-paraffins from hydrocarbon oils. 2,999,857, 9–12–61, Cl. 260—96.5.
Horn, Christian F.: *See*—
Young, Donald M., and Horn. 2,999,848.
Young, Donald M., and Horn. 2,999,849.
Young, Donald M., and Horn. 2,999,850.
Horne, Donald S., R. Ashton, and L. L. Kepkay, to Massey-Ferguson Ltd. Self-propelled combine. 2,999,347, 9–12–61, Cl. 56—21.
Horne, Donald S., R. Ashton, and L. L. Kepkay, to Massey-Ferguson Ltd. Operator's platform for combines. 2,999,556, 9–12–61, Cl. 180—89.
Hornschuch, Hanns, and H. E. Greve, to Ingersoll-Rand Co. Pump. 2,999,466, 9–12–61, Cl. 103—128.
Hoshino, Yasushi, M. Namikawa, and S. Tochihara. System for manufacturing at high speed magnetic sound record sheets used on a magnetic sound record reading machine. 2,999,907, 9–12–61, Cl. 179—100.2.
Hoshino, Yasushi, M. Namikawa, and S. Tochihara. Device for holding a master magnetic record sheet and a magnetic record sheet to be printed in a correct overlapping relationship in printing operation. 2,999,908, 9–12–61, Cl. 179—100.2.
Houdry Process Corp.: *See*—
Noll, Henry D. 2,999,804.
Shalit, Harold. 2,999,736.
Howald, Werner E., and O. Hollerith, to Curtiss-Wright Corp. Self balanced rotor blade. 2,999,668, 9–12–61, Cl. 253—39.15.
Hoyer, Horst G.: *See*—
Handschumaker, Edward, and Hoyer. 2,999,755.
Hubbard, Winchester L.: *See*—
Sundholm, Norman K., and Hubbard. 2,999,810.
Huber, Max: *See*—
Apotheloz, Robert, and Huber. 2,999,461.
Huber, Peter H. Powder-actuated fastener. 2,999,571, 9–12–61, Cl. 189—36.
Huck, William F., to The Brunswick Automatic Pinsetter Corp. Bowling pin changing mechanism. 2,999,690, 9–12–61, Cl. 273—43.
Huetten, Clarence, H. R. Reeve, and C. R. Reuter, to P. R. Mallory & Co., Inc. Miniature relay. 2,999,916, 9–12–61, Cl. 200—93.
Hughes Aircraft Co.: *See*—
Curry, Winfield S., Jr. 2,999,637.

Hughes, Harris G.: *See*—
Crabb, Clarence R., Hughes, and McDonald. 2,999,886.
Hullmann, Heinrich, to Escher Wyss G.m.b.H. Impregnation apparatus. 2,999,538, 9–12–61, Cl. 162—237.
Hullmann, Heinrich, to Escher Wyss G.m.b.H. Process and apparatus for the treatment of fibrous materials in the production of cellulose or semi-cellulose. 2,999,784, 9–12–61, Cl. 162—19.
Hultgren, Eric G. Plastic lipstick casing. 2,999,585, 9–12–61, Cl. 206—56.
Hunt, C. Howard, Pen Co.: *See*—
Lincoln, Walter B. 2,999,481.
Hunt, John W., to Pontiac Specialties Mfg. Corp. Nail clipper. 2,999,506, 9–12–61, Cl. 132—75.5.
Hunt, William C.: *See*—
Singleton, Fred G., and Hunt. 2,999,824.
Hunter, Dudley A.: *See*—
Williamson, Robert W. 2,999,526.
Hunting Engineering Ltd.: *See*—
Hann, Arthur, Legge, and Richards. 2,999,938.
Hushek, Daniel J. Paper address plate. 2,999,457, 9–12–61, Cl. 101—369.
Hutchison, Miller R., Jr., R. F. O'Brien, and E. S. Marvin, to Eastman Kodak Co. Automatic exposure control system for photographic cameras. 2,999,441, 9–12–61, Cl. 95—10.
Hynes, Dibrell P.: *See*—
Blair, David R., and Hynes. 2,999,701.
Igelbrinck, Robert: *See*—
Reuter, Franz G., and Igelbrinck. 2,999,717.
Imhoff, Carroll E.: *See*—
Eigner, Harold E., and Imhoff. 2,999,809.
Imparato, Jack G. Clamp with relatively adjustable article engaging members. 2,999,291, 9–12–61, Cl. 24—263.
Industrial Nucleonics Corp.: *See*—
Brown, Leonard C. 2,999,977.
Chope, Wilbert E., and Alexander. 2,999,381.
Crump, Jack G. 2,999,591.
Einsel, Robert P. 3,000,003.
Foster, George B. 2,999,935.
Francis, Kenneth E., and Alexander. 2,999,976.
Knapp, Robert A. 2,999,270.
Lowman, Walker B. 2,999,520.
Norwich, Alan. 2,999,589.
Pinkley, Clyde W. 2,999,974.
Pinkley, Clyde W. 2,999,975.
Pinkley, Clyde W. 2,999,978.
Spooner, David L. 2,999,932.
Warren, Richard F. 2,999,406.
Ingersoll-Rand Co.: *See*—
Hornschuch, Hanns, and Greve. 2,999,466.
International Business Machines Corp.: *See*—
Brand, Samuel. 2,999,592.
Rogers, Russell V. 2,999,392.
Shafer, Orville B. 2,999,918.
Tailleur, Andre M. 2,999,632.
Isreeli, Jack, to Technicon Instruments Corp. Colorimeter. 2,999,417, 9–12–61, Cl. 88—14.
Jackson, James C. Combination cooking apparatus. 2,999,450, 9–12–61, Cl. 99—262.
Jaffe, Sol S.: *See*—
Fritzinger, George H., and Jaffe. 2,999,969.
Jakeway, Gerald V., to Keeler Brass Co. Push button handle. 2,999,712, 9–12–61, Cl. 292—336.3.
Jamco, Inc.: *See*—
Melton, James O., and Wilkinson. 2,999,709.
Jenkins, Mervyn M., and J. R. Macy, to Owens-Illinois Glass Co. Apparatus for cleaning corrugated partition strips. 2,999,262, 9–12–61, Cl. 15—307.
Jenny, Dietrich A., to Radio Corp. of America. Semi-conductor signal transmitting systems. 2,999,926, 9–12–61, Cl. 250—17.
Jensen, Le Var C.: *See*—
Warren, Robert E., Nagel, Neumann, and Jensen. 2,999,630.
Jentzen-Miller Co.: *See*—
Jentzen, Sydney W. 2,999,599.
Jentzen, Sydney W., to Jentzen-Miller Co. Display shelving. 2,999,599, 9–12–61, Cl. 211—90.
Jo-An Shoe Mfg. Co., Inc., The: *See*—
Bozza, Joseph D. 2,999,323.
Johansen, Rolf J.: *See*—
Richter, Johan C. F. C., and Johansen. 2,999,785.
Johnson, Arthur E., to A. O. Smith Corp. Direct current power source. 2,999,950, 9–12–61, Cl. 307—155.
Johnson, George V. Outboard marine drive for inboard engine. 2,999,476, 9–12–61, Cl. 115—35.
Johnson & Johnson: *See*—
Ganz, Henry. 2,999,653.
Korpman, Ralf. 2,999,769.
Johnson, Justin O., Jr., to Minneapolis-Honeywell Regulator Co. Zero adjusting apparatus. 2,999,384, 9–12–61, Cl. 73—393.
Jones, John F. Ear corn holder. 2,999,713, 9–12–61, Cl. 294—5.
Jones & Laughlin Steel Corp.: *See*—
Laycak, John F. 2,999,944.
Jonkers, Cornelius O., to North American Philips Co., Inc. Method of separating gaseous impurities from a gaseous mixture. 2,999,365, 9–12–61, Cl. 62—12.
Joormann, Hendrik J. M.: *See*—
Klasens Hendrik A., van Santen, and Joormann. 2,999,941.
Joy Mfg. Co.: *See*—
Wagner, John H. 2,999,554.
Joyce, Maurice W. Rotary file. 2,999,502, 9–12–61, Cl. 129—16.
Justice, John L., and C. M. Rosser, to American Viscose Corp. Composite heat-sealable wrapping material. 2,999,782, 9–12–61, Cl. 154—136.
Kabushiki Kaishi Tohoku Kosakusho: *See*—
Yamano, Hideo. 2,999,472.
Kaczmarski, Leonard M., to Link-Belt Co. Drive for rotary drums. 2,999,396, 9–12–61, Cl. 74—244.
Kahler, Harry L., and C. B. George, to Betz Laboratories, Inc. Inhibiting corrosion in water systems with phosphate-chromate-EDTA compositions. 2,999,732, 9–12–61, Cl. 21—2.7.
Kalafus, Edward F.: *See*—
Gruber, Elbert E., and Kalafus. 2,999,830.
Kamin, Ernest F. Refuse vehicle with ram-actuated packer blade. 2,999,606, 9–12–61, Cl. 214—82.
Kautz, Walter C., Jr. Boat hull construction. 2,999,475, 9–12–61, Cl. 114—67.
Kavanaugh, Edward C.: *See*—
Drever, James R., Kavanaugh, and Bossong. 2,999,281.
Kaylor, Thomas W.: *See*—
Northrup, Wilmer R., and Kaylor. 2,999,331.
Keeler Brass Co.: *See*—
Jakeway, Gerald V. 2,999,712.
Keeley, Anthony J. J.: *See*—
Macgregor, Peter S., and Keeley. 2,999,602.
Keely, Clifford D., and R. J. Baisley, to General Corrugated Machinery Co., Inc. Mechanism for applying and pressing adhesive tape to perpendicularly related faces of traveling cartons. 2,999,342, 9–12–61, Cl. 53—66.
Keith, Carl D., to Engelhard Industries, Inc. Fractionation of alumina hydrates. 2,999,586, 9–12–61, Cl. 209—5.
Kelley, Oliver K., to General Motors Corp. Hydrodynamic torque converters and controls therefor. 2,999,400, 9–12–61, Cl. 74—645.
Kellogg, Spencer, and Sons, Inc.: *See*—
Handschumaker, Edward, and Hoyer. 2,999,755.
Kelsey-Hayes Co.: *See*—
Gollwitzer, George E. 2,999,409.
Klavon, Joseph A., Jr. 2,999,527.
Kennedy, William P. Adjustaole pattern irrigation sprinkling device. 2,999,643, 9–12–61, Cl. 239—97.
Kennedy, William P. Cam controlled pattern impulse sprinkler. 2,999,645, 9–12–61, Cl. 239—230.
Kenney, Joseph F.: *See*—
Clay, Franklin B., Jr., Kenney, Kidder, and Vandenberg. 2,999,767.
Kepkay, Leslie L.: *See*—
Horne, Donald S., Ashton, and Kepkay. 2,999,347.
Horne, Donald S., Ashton, and Kepkay. 2,999,556.
Kessler, Gerald, to Technicon Instruments Corp. Liquid mixing means. 2,999,673, 9–12–61, Cl. 259—7.
Keston, Albert S. Polarimetric apparatus. 2,999,418, 9–12–61, Cl. 88—14.
Kidder, Marshall J.: *See*—
Clay, Franklin B., Jr., Kenney, Kidder, and Vandenberg. 2,999,767.
Killow, John B.: *See*—
Mayer, Cornelius G., and Killow. 2,999,624.
Kincaid, George F., B. C. Douglas, and B. A. Gay, to Atlas Powder Co. Switch. 2,999,912, 9–12–61, Cl. 200—82.
King, Donald M. Chain guards for electrically operated hoist pulley blocks. 2,999,623, 9–12–61, Cl. 226—43.
King, Helen R. Tooth cleaning device. 2,999,260, 9–12–61, Cl. 15—118.
Kingsley, David G., R. L. Rice, and L. S. Hayward, to Stapling Machines Co. Apparatus for feeding cleats to box-making machines. 2,999,614, 9–12–61, Cl. 221—13.
Kingsley, David G., and L. S. Hayward, to Stapling Machines Co. Apparatus for feeding cleats to box-making machines. 2,999,615, 9–12–61, Cl. 221—13.
Kingsley, David G., to Stapling Machines Co. Apparatus for feeding cleats to box-making machines. 2,999,616, 9–12–61, Cl. 221—224.
Kinoshita, Yoshio. Automatic safety device for hydraulic brake. 2,999,362, 9–12–61, Cl. 60—54.5.
Kinzbach, Robert B., and W. Strecker, to Kinzbach Tool Co., Inc. Milling tool. 2,999,541, 9–12–61, Cl. 166—55.7.
Kinzbach Tool Co., Inc.: *See*—
Kinzbach, Robert B., and Strecker. 2,999,541.
Kiser, Albert L., to Product Deevlopment Corp. Foldable tackle box. 2,999,621, 9–12–61, Cl. 224—5.
Klasens, Hendrik A., J. G. van Santen, and H. J. M. Joormann, to North American Philips Co., Inc. Solid-state image intensifier. 2,999,941, 9–12–61, Cl. 250—213.
Klasens, Hendrik, A., G. Diemer, and S. T. Stap, to North American Philips Co., Inc. Solid-state image intensifier. 2,999,942, 9–12–61, Cl. 250—213.
Klavon, Joseph A., Jr., to Kelsey-Hayes Co. Automatic restrike die and feed mechanism. 2,999,527, 9–12–61, Cl. 153—34.
Kleinschmidt, Hans-Joachim, to Gelenkwellenbau, G.m.b.H. Coupling, especially for universal joint shafts and the like. 2,999,374, 9–12–61, Cl. 64—11.
Kluver, Johan W., to Bell Telephone Laboratories, Inc. Traveling wave tube. 2,999,959, 9–12–61, Cl. 315—3.6.
Knapp, Robert A., to Industrial Nucleonics Corp. Extrusion packaging apparatus. 2,999,270, 9–12–61, Cl. 17—35.
Kniepkamp, Ernst, and F. G. Reuter, to Mobay Chemical Co. Flexible joint. 2,999,707, 9–12–61, Cl. 287—85.
Knight, Cosler D., to Zenith Radio Corp. Transducer apparatus. 2,999,909, 9–12–61, Cl. 179—100.41.
Knippel, Willis H., to Pullman Inc. Railway power ballaster. 2,999,467, 9–12–61, Cl. 104—12.
Knowles, Alfred J.: *See*—
Ashworth, Fred, and Knowles. 2,999,766.
Kobe, Inc.: *See*—
Coberly, Clarence J. 2,999,464.
Kohler, Thomas R., to North American Philips Co., Inc. X-ray apparatus. 2,999,937, 9–12–61, Cl. 250—83.3.
Kolb, Robert E.: *See*—
Taff, Albert W., White, and Kolb. 2,999,293.
Korf, Erich: *See*—
Hauptvogel, Herbert, and Korf. 2,999,423.

Korpman, Ralf, to Johnson & Johnson. Pressure-sensitive adhesive tape employing adhesive containing curab.e polymer, a liquid tackifier and aldehyde resin curing agent. 2,999,769, 9–12–61, Cl. 117—122.
Kostrzewa, Valerian R. Transfer apparatus. 2,999,579, 9–12–61, Cl. 198—19.
Kovalcik, James L. Cutting gauge for frame parts. 2,999,684, 9–12–61, Cl. 269—192.
Krahler, Stanley E., to E. I. du Pont de Nemours and Co. Oil well treating material. 2,999,812, 9–12–61, Cl. 252—8.55.
Krimm, Heinrich: *See*—
Schnell, Hermann, and Krimm. 2,999,846.
Krimmel, Carl P., to G. D. Searle & Co. 2-substituted derivatives of 7-alkoxy-1,2,3,4-tetrahydro-8H-pyrido(1.2)pyrazin-8-ones and 7-alkoxy-1, or 2,3,4,5,9-hexahydropyrido (1,2) (1.4)diazepin-9-ones and their derivatives. 2,999,860, 9–12–61, Cl. 260—268.
Kroehler Mfg. Co.: *See*—
Morton, Lawrence L., Decker, and Bennett. 2,999,285.
Krol, Jan M.: *See*—
Kuzmick, Jerome F., and Krol. 2,999,309.
Kryzer, Benjamin H., to Union Tank Car Co. Controls for fluid treatment apparatus. 2,999,514, 9–12–61, Cl. 137—624.18.
Kulicke, Frederick W.: *See*—
Tancredi, Henry, and Kulicke. 2,999,607.
Kulicke & Soffa Mfg. Co.: *See*—
Tancredi, Henry, and Kulicke. 2,999,607.
Kulka, James M. Portable toilet or the like. 2,999,247, 9–12–61, Cl. 4—119.
Kurtak, Joseph A., to Sutton Engineering Co. Stretch measuring and limiting device for stretching machines. 2,999,528, 9–12–61, Cl. 153—35.
Kurtz, Frank. Universal fishing spike. 2,999,660, 9–12–61, Cl. 248—48.
Kuzmick, Jerome F., and J. M. Krol, to Welded Carbide Tool Co., Inc. Composite metal article and method of producing. 2,999,309, 9–12–61, Cl. 29—194.
La Fave, Ivan V., and I. L. Wissmiller, to Chicago Bridge & Iron Co. Insulated cryogenic storage tank. 2,999,366, 9–12–61, Cl. 62—45.
Lafferty, Wylie M., to Universal Sewer Pipe Corp. Pipe joint. 2,999,699, 9–12–61, Cl. 285—110.
Lanciano, Claude O., Jr., and P. J. Zannoni, to Rubber Fabricators, Inc. Life preserver. 2,990,255, 9–12–61, Cl. 9—338.
Lanegan, Frederick E. Printing machine for punched paper. 2,999,456, 9–12–61, Cl. 101—228.
Lang, Paul: *See*—
Ten Bosch, Maurits, and Lang. 2,999,390.
Lange, Joachim: *See*—
Bestian, Herbert, and Lange. 2,999,856.
Lapham, Sidney D. Bull float. 2,999,261, 9–12–61, Cl. 15—235.8.
Lapointe, Lloyd J., to Royal McBee Corp. Tape transport apparatus. 2,999,625, 9–12–61, Cl. 226—51.
Lappin, Richard J., and R. G. Mohr, to Brunswick Corp. Chair structure. 2,999,662, 9–12–61, Cl. 248—188.
Larsson, Carl Viktor: *See*—
Ostberg, Jonas M., and Larsson. 2,999,723.
Latourette, Harold K.: *See*—
Ferris, Arthur F., and Latourette. 2,999,875.
Latzen, Anneliese: *See*—
Latzen, Josef H. 2,999,710.
Latzen, Josef H., deceased, by A. Latzen, nee Dahmen, heir, to A. Ehrenreich & Cie. Ball joint, especially for motor vehicles. 2,999,710, 9–12–61, Cl. 287—90.
Lauck, Francis W.: *See*—
Burklin, Adolf J., and Lauck. 2,999,930.
Lauck, Robert M., and A. D. F. Toy, to Victor Chemical Works. Composition and method for the preparation of beverages. 2,999,754, 9–12–61, Cl. 99—78.
Lauer, Paul H., to The Falako Corp. Window structure. 2,999,279, 9–12–61, Cl. 20—52.
Laug, Ernst, to Socony Mobil Oil Co. Inc. Cutting fluid. 2,999,814, 9–12–61, Cl. 252—34.7.
Laycak, John F., to Jones & Laughlin Steel Corp. Non-contacting width gage. 2,999,944, 9–12–61, Cl. 250—219.
Lechtenberg, Leo J., to Briggs & Stratton Corp. Air cleaner. 2,999,562, 9–12–61, Cl. 183—44.
Legge, Henry R.: *See*—
Hann, Arthur, Legge, and Richards. 2,999,938.
Leitz, Ernst, Canada Ltd.: *See*—
Malinowski, Tadeusz, and Mandler. 2,999,415.
Levy, Irving M., to General Motors Corp. Winding arrangement for dynamoelectric machine. 2,999,953, 9–12–61, Cl. 310—166.
Levy, Irving M., to General Motors Corp. Two-speed four-six pole stator winding arrangement. 2,999,954, 9–12–61, Cl. 310—166.
Levy, Irving M., to General Motors Corp. Two-speed two-four pole stator winding arrangement. 2,999,955, 9–12–61, Cl. 310—188.
Lewis, Arnold S. Convertible canoe and kayak. 2,999,253, 9–12–61, Cl. 9—2.
Lexton, Gordon S.: *See*—
Thorne, Harold. 2,999,619.
Leyman Corp.: *See*—
Blume, Walter S., Jr. 2,999,275.
Li, Kam, to Radio Corp. of America. Converter circuits. 2,999,987, 9–12–61, Cl. 332—1.
Libbey-Owens-Ford Glass Co.: *See*—
Alexander, Harold M., and McCown. 2,999,341.
Sharp, Donald E. 2,999 337.
Licencia Talalmanyokat Ertekesito Vallalat: *See*—
Heller, Laszlo, and Bakay. 2,999,945.
Lilly, Eli, and Co.: *See*—
Shipley, Robert E. 2,999,495.
Lincoln, Walter B., to C. Howard Hunt Pen Co. Pencil pointer. 2,999,481, 9–12–61, Cl. 120—91.
Lingard, Frederick E.: *See*—
Cheeseman, Leslie H., and Lingard. 2,999,686.
Link-Belt Co.: *See*—
Kaczmarski, Leonard M. 2,999,396.
Linnenbank, Charles D., to Baldt Anchor, Chain & Forge Division of The Boston Metals Co. Detachable chain joining link. 2,999,352, 9–12–61, Cl. 59—87.
Lionel Corp., The: *See*—
Zion, Moses. 2,999,334.
Lipkin, Daniel M., to Sperry Rand Corp. Analog multiplying circuits. 2,999,639, 9–12–61, Cl. 235—194.
Lippincott, Donald F.: *See*—
Bedard, Eugene J., Lippincott, and Nickell. 2,999,401.
Lippman, Bernard. Shirt. 2,999,245, 9–12–61, Cl. 2—115.
List, Ferdinand: *See*—
Broich, Franz, List, and Roh. 2,999,879.
Litwinczuk, Victor W. Portable table bowling game. 2,999,689, 9–12–61, Cl. 273—39.
Logan Emergency Showers, Inc.: *See*—
Logan, Hugh H., Doty, and Nelson. 2,999,249.
Logan, Hugh H., Nelson, Dixon, and Taube. 2,999,248.
Logan, Hugh H., J. F. Nelson, E. F. Dixon, and J. A. Taube, to Logan Emergency Showers, Inc. Emergency wash facility. 2,999,248, 9–12–61, Cl. 4—166.
Logan, Hugh H., K. G. Doty, and J. F. Nelson, to Logan Emergency Showers, Inc. Retractable emergency wash facility. 2,999,249, 9–12–61, Cl. 4—166.
Lohs, Willy, F. Sommer, and G. Thom, to Siemens & Halske Aktiengesellschaft Berlin and Munich. Telephone installation bay structure with sliding switch frames. 2,999,904, 9–12–61, Cl. 179—91.
Long Mfg. Co.: *See*—
Long, William R. 2,999,547.
Long, William R., to Long Mfg. Co. Peanut digger and shaker. 2,999,547, 9–12–61, Cl. 171—101.
Lorenz, Anton: *See*—
Schliephacke, Fridtjof F. 2,999,719.
Schliephacke, Fridtjof F. 2,999,720.
Lounsberry, Stephen M., Jr.: *See*—
Steele, James R., and Lounsberry. 2,999,641.
Lowman, Walker B., to Industrial Nucleonics Corp. Cigarette rod cutter and cigarette counter. 2,999,520, 9–12–61, Cl. 146—101.
Ludwig, Oskar R., and A. Pezone. Room divider partitions. 2,999,568, 9–12–61, Cl. 189—34.
Ludwig, Richard E., to E. I. du Pont de Nemours and Co. Reaction product of N-glycidyl-phthalimide and a dianhydride compound, process for preparing same, and modification thereof. 2,999,836, 9–12–61, Cl. 260—42.
Lundy, James H., H. G. Rempel, and R. Slavich. Process for preconditioning air for use in the oxidation of hydrocarbon fuels. 2,999,485, 9–12–61, Cl. 123—119.
Lynch Corp.: *See*—
Clanin, Richard D., and Hansen. 2,999,344.
Lynn, John W.: *See*—
Roberts, Richard L., and Lynn. 2,999,876.
Lyon, George A. Wheel cover. 2,999,722, 9–12–61, Cl. 301—37.
Lusznat, Johannes, to Ford Motor Co. Precombustion chamber. 2,999,484, 9–12–61, Cl. 123—32.
Macgregor, Peter S., and A. J. J. Keeley, to Flight Refuelling Ltd. Coupling devices for railway vehicles. 2,999,602, 9–12–61, Cl. 213—97.
Machine Products Corp.: *See*—
Miller, Clarence H. 2,999,319.
Machine Tool Works Oerlikon, Administration Co.: *See*—
Apotheloz, Robert, and Huber. 2,999,461.
MacLeod, David E., to Carrier Corp. Ice cube makers. 2,999,371, 9–12–61, Cl. 62—347.
Maculan, Alexander: *See*—
Maculan, Rudolf. 2,999,340.
Maculan, Rudolf, deceased; E. Meissner, guardian of A. Maculan, heir of said R. Maculan. Surface supporting structure. 2,999,340, 9–12–61, Cl. 50—49.
Macy, Jay R.: *See*—
Jenkins, Mervyn M., and Macy. 2,999,262.
Magarshack, John M., and E. Moss, to The British Cotton Industry Research Assn. Device for measuring energy input to raising rollers of textile raising machines. 2,999,294, 9–12–61, Cl. 26—33.
Malinaric, Paul J. Noise eliminator. 2,999,905, 9–12–61, Cl. 179—100.1.
Malinowski, Tadeusz, and W. Mandler, to Ernst Leitz, Canada Ltd. Rangefinder sight with rangefinder of external basis type. 2,999,415, 9–12–61, Cl. 88—2.2.
Mallory, P. R., & Co., Inc.: *See*—
Fuller, Frederick J. 2,999,654.
Huetten, Clarence, Reeve, and Reuter. 2,999,916.
Mancini, Louis P. Portable first aid cabinet. 2,999,583, 9–12–61, Cl. 206—12.
Mandler, Walter: *See*—
Malinowski, Tadeusz, and Mandler. 2,999,415.
Manning, George, and J. A. McCoig, Sr., to Cocker Machine & Foundry Co. Fabric stretch control device. 2,999,295, 9–12–61, Cl. 26—54.
Manning, Maxwell & Moore, Inc.: *See*—
Du Bois, Robert C. 2,999,478.
Du Bois, Robert C. 2,999,508.
Mariani, Frank N. Mounting for rear vision reflector. 2,999,428, 9–12–61, Cl. 88—98.
Marié, Pierre G. Resonant directional couplers. 2,999,988, 9–12–61, Cl. 333—10.
Marison, John A. Tubeless tire-rim and spring unit supplement. 2,999,524, 9–12–61, Cl. 152—6.

Marko, Albert J.: *See*—
Bowerman, Edwin R., Jr., and Marko. 2,999,958.
Marks, Mortimer M. Cigarette filler composition. 2,999,775, 9–12–61, Cl. 131—17.
Martens, Jack E. Two part ring with lug and recess retaining means. 2,999,412, 9–12–61, Cl. 85—8.8.
Martin, Albert E., J. Smart, and G. L. Richardson, to C. A. Parsons & Co. Ltd. Infra-red gas analysers. 2,999,929, 9–12–61, Cl. 250—43.5.
Martin Co., The: *See*—
Fishpaw, Arthur L., and McAvoy. 2,999,355.
Martin, James. Parachute apparatus. 2,999,659, 9–12–61, Cl. 244—141.
Marvel Specialty Co., Inc.: *See*—
Smith, Gus T. 2,999,618.
Marvin, Edgar S.: *See*—
Hutchison, Miller R., Jr., O'Brien, and Marvin. 2,999,441.
Maschinenfabrik Winkler, Fallert & Co.: *See*—
Burki, René, and Von Hein. 2,999,685.
Massey-Ferguson Ltd.: *See*—
Horne, Donald S., Ashton, and Kepkay. 2,999,347.
Horne, Donald S., Ashton, and Kepkay. 2,999,556.
Mast, Aquila D., to Daffin Mfg. Co. Dispensing apparatus with hopper. 2,999,617, 9–12–61, Cl. 222—504.
Matheson, James N., to The Electric Storage Battery Co. Respirator. 2,999,498, 9–12–61, Cl. 128—146.
Mathews, Bernard C. Variable discharge crop reaper and chopper. 2,999,346, 9–12–61, Cl. 56—1.
Maurice, Jean, and M. Rist, to Societe Anonyme Francaise du Ferodo. Electric control circuit for electromagnet clutches. 2,999,573, 9–12–61, Cl. 192—3.5.
Maxant Button & Supply Co.: *See*—
Morton, Lawrence L., Decker, and Bennett. 2,999,285.
Mayer, Cornelius G., and J. B. Killow, to Radio Corp. of America. Mechanism for feeding strip material. 2,999,624, 9–12–61, Cl. 226—50.
McAllister, Eva C.: *See*—
McAllister, John W. and E. C. 2,999,321.
McAllister, John W. and E. C., ½ to Gadget-Of-The-Month Club, Inc. Apparatus for facilitating the making of pleated draperies. 2,999,321, 9–12–61, Cl. 33—180.
McAvoy, Gilbert P.: *See*—
Fishpaw, Arthur L., and McAvoy. 2,999,355.
McCammon, Robert F., to Minneapolis-Honeywell Regulator Co. Slide changer apparatus. 2,999,424, 9–12–61, Cl. 88—28.
McClain, Harry W. Fuel carburetor with central air intake. 2,999,674, 9–12–61, Cl. 261—50.
McClelland, John C., to The Budd Co. Testing machine. 2,999,382, 9–12–61, Cl. 73—93.
McCoig, John A., Sr.: *See*—
Manning, George, and McCoig. 2,999,295.
McComb, Frank E., to Flexible Steel Lacing Co. Aligning gauge for flexible hinged fasteners. 2,999,284, 9–12–61, Cl. 24—33.
McConnell, David P.: *See*—
Ault, John D., and McConnell. 2,999,651.
McCown, William E.: *See*—
Alexander, Harold M., and McCown. 2,999,341.
McCulloch, Bryson. Shade roller and bracket assemblies. 2,999,664, 9–12–61, Cl. 248—267.
McDermott, William J., to Dennison Mfg. Co. Self-locking box. 2,999,626, 9–12–61, Cl. 229—45.
McDonald, James A., and H. H. Evans, to Commercial Cam & Machine Co. Method of manufacture of an indexing cam. 2,999,311, 9–12–61, Cl. 29—401.
McDonald, Leighton S.: *See*—
Crabb, Clarence R., Hughes, and McDonald. 2,999,886.
McGary, Charles W., Jr., and C. T. Patrick, Jr., to Union Carbide Corp. Epoxy coating compositions. 2,999,827, 9–12–61, Cl. 260—23.
McGinnis, Ralph E., to Westinghouse Electric Corp. Damping apparatus. 2,999,669, 9–12–61, Cl. 253—77.
McGraw-Edison Co.: *See*—
Cunningham, Francis V. 2,999,960.
McShane, Herbert F., Jr.: *See*—
Bell, Richard W., Csendes, and McShane. 2,999,840.
Mead, Harry A.: *See*—
Slagel, Lamont, and Mead. 2,999,533.
Mecca Film Laboratories Inc.: *See*—
Welch, Earl M. 2,999,421.
Medearis, Paul A.: *See*—
De Jarnett, Frank D. 2,999,605.
Medlar, Lewis A., to Fox Products Co. Transformer apparatus. 2,999,973, 9–12–61, Cl. 323—60.
Meilinger Fixtures Co., Inc.: *See*—
Meilinger, Raymond. 2,999,269.
Meilinger, Raymond, to Meilinger Fixtures Co., Inc. Cabinet hinge. 2,999,269, 9–12–61, Cl. 16—149.
Meissner, Ernst: *See*—
Maculan, Rudolf. 2,999,340.
Melpar, Inc.: *See*—
Williams, Richard E. 3,000,006.
Melton, James O., and T. B. Wilkinson, to Jamco, Inc. Ball joint assembly. 2,999,709, 9–12–61, Cl. 287—90.
Mendelsohn, Lewis I., to General Electric Co. Antimonide coated magnetic materials with lead and lead-antimony matrices. 2,999,778, 9–12–61, Cl. 148—31.55.
Mendles, Walter J., to The Singer Mfg. Co. Centrifugal gate valve for sewing machines. 2,999,474, 9–12–61, Cl. 112—256.
Menter, Daniel J.: *See*—
Conti, Alfred R., and Menter. 2,999,301.
Mercer, Carl A. Tube-perforating mechanism. 2,999,525, 9–12–61, Cl. 153—2.
Merck & Co., Inc.: *See*—
Poos, George I., and Sarett. 2,999,859.
Metropolitan-Vickers Electrical Co. Ltd.: *See*—
Ashworth, Fred, and Knowles. 2,999,766.
Metz, Jack L., to Warwick Mfg. Corp. Magnetic recorder head. 2,999,906, 9–12–61, Cl. 179—100.2.
Miegel, Ralph E., to E. I. du Pont de Nemours and Co. Process of vulcanizing chloroprene polymers. 2,999,855, 9–12–61, Cl. 260—79.5.
Miller, Alfred, and H. Haydn, to Agfa Aktiengesellschaft. Photoconductive layers for electrophotography. 2,999,750, 9–12–61, Cl. 96—1.
Miller, Clarence H., to Machine Products Corp. Layout fixture. 2,999,319, 9–12–61, Cl. 33—174.
Miller, Henry C., and E. L. Muetterties, to E. I. du Pont de Nemours and Co. Metal derivatives of borane adducts. 2,999,864, 9–12–61, Cl. 260—340.6.
Miller, James L., to A. E. Staley Mfg. Co. Liquid laundry starch. 2,999,761, 9–12–61, Cl. 106—213.
Miller Pottery Engineering Co.: *See*—
Miller, Vincent P. 2,999,292.
Miller, Robert G.: *See*—
Mowery, Orville E., and Miller. 2,999,518.
Miller, Vincent P., to Miller Pottery Engineering Co. Appendaging machines. 2,999,292, 9–12–61, Cl. 25—22.
Miller, Wallace W. Extruded threshold, sill and fascia plate. 2,999,280, 9–12–61, Cl. 20—64.
Mine Safety Appliances Co.: *See*—
Hamilton, William C., and Austin. 2,999,497.
Mining Research Corp.: *See*—
Ault, John D., and McConnell. 2,999,651.
Minneapolis-Honeywell Regulator Co.: *See*—
Beard, Richard B., and Snitzer. 2,999,379.
Beck, Kenneth H. 2,999,984.
Johnson, Justin O., Jr. 2,999,384.
McCammon, Robert F. 2,999,424.
Petry, Eduard C., and Underwood. 2,999,353.
Minnesota Mining and Mfg. Co.: *See*—
Honn, Francis J., and Sims. 2,999,854.
Mische, Friedrich, to Voigtlander A.G. Photographic measuring finder. 2,999,416, 9–12–61, Cl. 88—2.4.
Mitchell, Robert L. Resilient mat construction. 2,999,431, 9–12–61, Cl. 94—13.
Mivauchi, Hideo, to Yashica Co., Ltd. Optical filter compensation means coupled to exposure-responsive device. 2,999,443, 9–12–61, Cl. 95—10.
Mivauchi, Hideo, to Yashica Co., Ltd. Turret detent means. 2,999,444, 9–12–61, Cl. 95—45.
Mobay Chemical Co.: *See*—
Kniepkamp, Ernst, and Reuter. 2,999,707.
Muller, Erwin, and Bayer. 2,999,844.
Reuter, Franz G., and Igelbrinck. 2,999,717.
Ulderup, Jürgen, and Reuter. 2,999,679.
Modelli, Renato: *See*—
Camerino, Bruno, Modelli, and Patelli. 2,999,870.
Mohr, Robert G.: *See*—
Lappin, Richard J., and Mohr. 2,999,662.
Molins Machine Co. Ltd.: *See*—
Chalmers, John W., Hall, and Roffey. 2,999,345.
Momoi, Kazuo. Process of making a fishing net. 2,999,413, 9–12–61, Cl. 87—12.
Moore & Steele Corp.: *See*—
Steele, James R., and Lounsberry. 2,999,641.
Morgan, Paul W., to E. I. du Pont de Nemours and Co. Synthetic polymer fibrid paper. 2,999,788, 9–12–61, Cl. 162—146.
Morin, Louis H., to Coats & Clark Inc. Method of molding plastic travelers with wire inserts. 2,999,276, 9–12–61, Cl. 18—59.
Mork, George W., to Bucyrus-Erie Co. Hinged boom stop. 2,999,601, 9–12–61, Cl. 212—59.
Morley, Frederick W. W., to Rolls-Royce Ltd. Protective arrangement for use with apparatus or machines having rotating parts. 2,999,667, 9–12–61, Cl. 253—39.
Morris, John W., to Pittsburgh Plate Glass Co. Method and apparatus for edge sealing. 2,999,779, 9–12–61, Cl. 154—2.71.
Morrish, Desmond G., to Ardente Acoustic Laboratories Ltd. Electrical control components. 2,999,992, 9–12–61, Cl. 338—163.
Morrison, George H., F. C. Palilla, and W. Zloczower, to Sylvania Electric Products Inc. Phosphors and methods for producing same. 2,999,818, 9–12–61, Cl. 252—301.6.
Morton, Lawrence L., W. H. Decker, and L. H. Bennett, ½ to Kroehler Mfg. Co. and ½ to Maxant Button & Supply Co. Upholstery button construction. 2,999,285, 9–12–61, Cl. 24—94.
Mosher, Robert A., and W. G. Stanley, to Standard Oil Co. Restricted ammonium nitrate propellant. 2,999,462, 9–12–61, Cl. 102—98.
Moss, Edward: *See*—
Magarshack, John M., and Moss. 2,999,294.
Motorola, Inc.: *See*—
Birkenes, Bernhard. 2,999,927.
Niederman, Bernard, and Pohanka. 2,999,989.
Mott, Howard V. S. Shoe fitting. 2,999,256, 9–12–61, Cl. 12—142.
Mottier, Edouard: *See*—
Mottier, Felix and E. 2,999,924.
Mottier, Felix and E. Anti-fog lighting projector. 2,999,924, 9–12–61, Cl. 240—41.35.
Mowery, Orville E., and R. G. Miller, to The G. M. Diehl Machine Works, Inc. Automatically adjustable gauging device for positioning an element. 2,999,518, 9–12–61, Cl. 143—168.
Moyer, Robert C., to Radio Corp. of America. Off-center indicator. 3,000,005, 9–12–61, Cl. 340—282.
Moyroud, Louis M.: *See*—
Higonnet, Rene A., Moyroud, and Hanson. 2,999,434.
Muetterties, Earl L.: *See*—
Miller, Henry C., and Muetterties. 2,999,864.

Muller, Erwin, and O. Bayer, ½ to Farbenfabriken Bayer Aktiengesellschaft and ½ to Mobay Chemical Co. Polycarbonate preparation under anhydrous conditions. 2,999,844, 9–12–61, Cl. 260—47.
Müller, Josef, F. H. Van Winsen, and A. G. Zimmer, to Daimler-Benz Aktiengesellschaft. Spring bellows for air spring systems. 2,999,681, 9–12–61, Cl. 267—65.
Munson, Donald J., and R. Gustin, to The J. R. Clark Co. Combination pad and cover unit for ironing table tops. 2,999,325, 9–12–61, Cl. 38—140.
Murphy, Robert P., Jr., to Pan American Petroleum Corp. Method of air drilling. 2,999,551, 9–12–61, Cl. 175—68.
Murray, Frederick R., to Rolls-Royce Ltd. Combustion equipment of gas-turbine engines. 2,999,359, 9–12–61, Cl. 60—39.65.
Musaphia, Georges. Apparatus for producing animated optical effects. 2,999,326, 9–12–61, Cl. 40—106.52.
Myers, John W., to Phillips Petroleum Co. Paraffin isomerization process. 2,999,805, 9–12–61, Cl. 208—140.
Myers, Robert R., to Aluminum Co. of America. Plugged assemblies. 2,999,703, 9–12–61, Cl. 287—1.
Myers, William D., to Baker Oil Tools, Inc. Locator for well casing collar spaces and similar recesses. 2,999,542, 9–12–61, Cl. 166—64.
Myers, William D., to Baker Oil Tools, Inc. Parallel tubular string apparatus for well bores. 2,999,543, 9–12–61, Cl. 166—129.
Nabors, Jack D.: *See*—
Schoeld, Edmund A., Nabors, and Reiter. 2,999,595.
Nagel, Felix E.: *See*—
Warren, Robert E., Nagel, Neumann, and Jensen. 2,999,630.
Namikawa, Mamoru: *See*—
Hoshino, Yasushi, Namikawa, and Tochihara. 2,999,907.
Hoshino, Yasushi, Namikawa, and Tochihara. 2,999,908
National Dairy Products Corp.: *See*—
Brown, Frank A. 2,999,758.
National Research Council: *See*—
Thiessen, George J., and Dagg. 2,999,380.
National Research Development Corp.: *See*—
Airey, Leslie. 2,999,965.
Naudzius, Edward J., to General Motors Corp. Brake shoe spring. 2,999,566, 9–12–61, Cl. 188—78.
Nelson, James F.: *See*—
Logan, Hugh H., Doty, and Nelson. 2,999,249.
Nelson, James F.: *See*—
Logan, Hugh H., Nelson, Dixon, and Taube. 2,999,248.
Nelson, Ralph A.: *See*—
Downs, Martin L., and Nelson. 2,999,786.
Downs, Martin L., and Nelson. 2,999,787.
Nemes, Joseph J., and R. D. Vartanian, to American Cyanamid Co. Urea and thiourea resinous composition. 2,999,847, 9–12–61, Cl. 260—69.
Nerwin, Hubert, to Eastman Kodak Co. Automatic exposure control system. 2,999,438, 9–12–61, Cl. 95—10.
Nerwin, Hubert, and J. H. Eagle, to Eastman Kodak Co. Automatic exposure control for photographic camera. 2,999,439, 9–12–61, Cl. 95—10.
Nerwin, Hubert, to Eastman Kodak Co. Automatic exposure control for photographic camera. 2,999,440, 9–12–61, Cl. 95—10.
Neumann, Gerhard: *See*—
Warren, Robert E., Nagel, Neumann, and Jensen. 2,999,630.
New, Alfred G.: *See*—
Davenport, T. B., and New. 2,999,351.
Newcomb, Wilbur F. Rear view mirror supporting frame for automobiles. 2,999,427, 9–12–61, Cl. 88—86.
Nichols, Edward C., and C. P. Powell, to Draper Corp. Shuttle control mechanism. 2,999,516, 9–12–61, Cl. 139—155.
Nichols, N T, Jr. Grass and weed deflecting attachment for cotton pickers. 2,999,349, 9–12–61, Cl. 56—28.
Nickell, Claude H.: *See*—
Bedard, Eugene J., Lippincott, and Nickell. 2,999,401.
Niederman, Bernard, and R. L. Pohanka, to Motorola, Inc. Electro-mechanical filter. 2,999,989, 9–12–61, Cl. 333—71.
Noack, Rolf: *See*—
Hahn, Erich, Hahn, and Noack. 2,999,437.
Nobinger, Edward. Portable sprinkling device. 2,999,644, 9–12–61, Cl. 239—229.
Nolde, Henry J. Buoyant boat construction. 2,999,254, 9–12–61, Cl. 9—3.
Noll, Henry D., to Houdry Process Corp. Reforming gasoline. 2,999,804, 9–12–61, Cl. 208—65.
Nopco Chemical Co.: *See*—
Dombrow, Bernard A. 2,999,823.
Norgren, C. A., Co.: *See*—
Friedell, Morley V. 2,999,913.
Norman, Lucille. Buckle. 2,999,286, 9–12–61, Cl. 24—171.
Normington, James B.: *See*—
Bloom, Albert, Freyermuth, and Normington. 2,999,873.
Norrby, Harold W. Self contained boat trailer. 2,999,252, 9–12–61, Cl. 9—1.
North American Aviation, Inc.: *See*—
Bower, John L. 2,999,482.
Freebairn, Darwin L., and Slater. 2,999,391.
North American Philips Co., Inc.: *See*—
Beukema, Willem, Bruijning, and Vuurmans. 2,999,302.
Hellingman, Evert, van der Laan, and Roozendaal. 2,999,364.
Jonkers, Cornelius O. 2,999,365.
Klasens, Hendrik A., van Santen, and Joormann. 2,999,941.
Klasens, Hendrik A., Diemer, and Stap. 2,999,942.
Kohler, Thomas R. 2,999,937.
Schagen, Pieter, and Calder. 2,999,957.
Schoot, Cornelis J., and Van Rij. 2,999,883.
Tenger, Jan. 2,999,289.
Van Der Ster, Johannes. 2,999,363.
Northup, Wilmer R., and T. W. Kaylor. Fishing lures. 2,999,331, 9–12–61, Cl. 43—42.46.
Norwich, Alan, to Industrial Nucleonics Corp. Classifying apparatus. 2,999,589, 9–12–61, Cl. 209—82.
Nottebohm, Carl-Ludwig: *See*—
Graulich, Wilhelm, Sinn, Nottebohm, and Schabert. 2,999,773.
NuArc Co., Inc.: *See*—
Benson, Harold R. 2,999,419.
O'Brian, Edward D.: *See*—
Bourns, Marlan E., Boode, and O'Brian. 2,999,995.
Bourns, Marlan E., Hardison, and O'Brian. 2,999,994.
O'Brien, Edward J.: *See*—
Wahlin, Fred W., and O'Brien. 2,999,648.
O'Brien, Robert F.: *See*—
Hutchison, Miller R., Jr., OBrien, and Marvin. 2,999,441.
Oetiker, Hans. Pneumatic control valve. 2,999,513, 9–12–61, Cl. 137—620.
Ogilvie Flour Mills Co., Ltd., The: *See*—
Witwicka, Irena E., Pavuk, and Gaver. 2,999,753.
Ohlhausen, Sidney C. Cutters for hydraulic dredges. 2,999,324, 9–12–61, Cl. 37—67.
Okawa, Kenji, and M. Sato, to Ajinomoto Co., Inc. Synthesis of β-hydroxy-α-amino acid. 2,999,878, 9–12–61, Cl. 260—519.
Oklahoma State University of Agriculture and Applied Science: *See*—
Upham, Sidney D. 2,999,863.
Olin Mathieson Chemical Corp.: *See*—
Campas, William J. 2,999,307.
Cooley, Robert A. 2,999,910.
Pauls, Theron F. 2,999,304.
Pauls, Theron F. 2,999,308.
Schur, Milton O., and Rickards. 2,999,503.
Orr John E. Single trigger mechanism for double barrelled shotguns. 2,999,327, 9–12–61, Cl. 42—42.
Ostberg, Jonas M., and C. V. Larsson. Chain for tractors. 2,999,723, 9–12–61, Cl. 305—57.
Otis Engineering Corp.: *See*—
Fredd, John V. 2,999,320.
Grimmer, George G., and Schramm. 2,999,546.
Owens-Illinois Glass Co.: *See*—
Chew, Clarence, Sr. 2,999,511.
Jenkins, Mervyn M., and Macy. 2,999,262.
Pacific Semiconductors, Inc.: *See*—
Campbell, Richard A. 2,999,587.
Stern, Joseph M., and Fuller. 2,999,983.
Pack Mfg. Co.: *See*—
Shelly, Robert S. 2,999,318.
Page Communications Engineers, Inc.: *See*—
Thomas, Elmer. 2,999,925.
Palilla, Frank C.: *See*—
Morrison, George H., Palilla, and Zloczower. 2,999,818.
Pamm, Georges: *See*—
Breen, Alvin L., and Pamm. 2,999,296.
Pan American Petroleum Corp.: *See*—
Murphy, Robert P., Jr. 2,999,551.
Panizzi, Luigi: *See*—
Vercellone, Alberto, and Panizzi. 2,999,877.
Pankuch, Henry. Sound emitting fishing lure. 2,999,329, 9–12–61, Cl. 43—26.2.
Papadopoulos, Michael N., and C. H. Deal, Jr., to Shell Oil Co. Solvent extraction process. 2,999,892, 9–12–61, Cl. 260—674.
Papritz, Hans, to Haag-Streit A.G. Slit lamp. 2,999,422, 9–12–61, Cl. 88—20.
Parker, Eric: *See*—
Hansford, Reginald F., and Parker. 3,000,007.
Parker, James M.: *See*—
Bible, Robert E., Dreyfus, Parker, and Williamson. 2,999,939.
Parmelee, Howard M.: *See*—
Bennett, Edward J., and Parmelee. 2,999,816.
Parrott, Henry W.: *See*—
Ericson, Sidney A., and Parrott. 2,999,665.
Parson, Edward L. Traction-percussion table. 2,999,496, 9–12–61, Cl. 128—33.
Parsons, C. A., & Co. Ltd.: *See*—
Martin, Albert E., Smart, and Richardson. 2,999,929.
Patchogue-Plymouth Corp.: *See*—
Schwartz, Harold A. 2,999,297.
Patelli, Bianca: *See*—
Camerino, Bruno, Modelli, and Patelli. 2,999,870.
Patrick, Charles T., Jr.: *See*—
McGary, Charles W., Jr., and Patrick. 2,999,827.
Pauls, Theron F., to Olin Mathieson Chemical Corp. Method of manufacturing heat exchangers. 2,999,304, 9–12–61, Cl. 29—157.3.
Pauls, Theron F., to Olin Mathieson Chemical Corp. Heat exchanger. 2,999,308, 9–12–61, Cl. 29—157.3.
Paulson, Thomas V. Two-part plastic container. 2,999,611, 9–12–61, Cl. 220—4.
Pavlecka, John. Airfoil structure. 2,999,658, 9–12–61, Cl. 244—124.
Pavuk, John S.: *See*—
Witwicka, Irena E., Pavuk, and Gaver. 2,999,753.
Payne, Nigel E., and E. F. Sheldon, to Rolls-Royce Ltd. Stator construction for rotary fluid machine. 2,999,670, 9–12–61, Cl. 253—78.
Payne, William F.: *See*—
Gallo, Elia A., and Payne. 2,999,354.
Peerless Tube Co.: *See*—
Gronemeyer, Erich, and Cherba. 2,999,273.
Peerman, Dwight E.: *See*—
Floyd, Don E., and Peerman. 2,999,825.
Peerman, Dwight E., and D. E. Floyd, to General Mills, Inc. Reaction product of epoxy resins and polyamides from blends of aliphatic polyamines and aromatic polyamines. 2,999,826, 9–12–61, Cl. 260—18.

Pentecostal Church of God: *See*—
Gabrielson, Harold M. 2,999,688.
Perfect Circle Corp.: *See*—
Estey, Melvin E. 2,999,728.
Perkie, Elmer G.: *See*—
Gross, Joseph P., and Perkie. 2,999,243.
Perrault, Lewis, to H. D. Boggs Co., Ltd. Method of casting tubular articles. 2,999,780, 9–12–61, Cl. 154—83.
Perry, William M., to General Aniline & Film Corp. Copolymers of N-vinylpyrrolidones with dialkyl maleates or fumarates. 2,999,853, 9–12–61, Cl. 260—78.5.
Petersen, Gerald A. M., R. W. Goode, and H. R. Gustafson, said Goode and said Gustafson, assors. to said Petersen. Pole tensioner. 2,999,655, 9–12–61, Cl. 242—155.
Petersen, Tony E. Multi-purpose power tool. 2,999,519, 9–12–61, Cl. 144—1.
Peterson, Bertil E., to Cardwell Westinghouse Co. Journal lubricator. 2,999,726, 9–12–61, Cl. 308—87.
Peterson, Edwin F. Vibrator. 2,999,393, 9–12–61, Cl. 74—87.
Petry, Eduard C., and O. J. Underwood, to Minneapolis-Honeywell Regulator Co. Interrelated main fuel control and nozzle area control. 2,999,353, 9–12–61, Cl. 60—35.6.
Pfaff, G. M., A.G.: *See*—
Benink, Christiaan J. M., and Wenz. 2,999,471.
Pfaffenberger, Erwin: *See*—
Hautmann, Heinrich, and Pfaffenberger. 2,999,446.
Pfau, Emert S., G. H. Swart, and K. V. Weinstock, to The General Tire and Rubber Co. Mixture of two copolymers of a conjugated diolefinic compound and an oily plasticizer and articles formed therefrom. 2,999,822, 9–12–61, Cl. 260—2.5.
Pfleiderer, Friedrich, and O. A. Thiéle, to Siemens & Halske Aktiengesellschaft Berlin and Munich. Polarized change-over contact device. 2,999,915, 9–12–61, Cl. 200—93.
Philips Electronics, Inc.: *See*—
Zingaro, Placido W. 2,999,931.
Phillips, Benjamin, and F. C. Frostick, Jr., to Union Carbide Corp. Epoxides and method of preparing same. 2,999,865, 9–12–61, Cl. 260—348.
Phillips, Benjamin, P. S. Starcher, and D. L. Heywood, to Union Carbide Corp. 2,3-epoxyalkylsuccinic acid derivatives and the process of making them. 2,999,868, 9–12–61, Cl. 260—348.
Phillips Petroleum Co.: *See*—
Davison, Joseph W. 2,999,890.
Franzus, Boris. 2,999,837.
Myers, John W. 2,999,805.
Seefluth, Charles L. 2,999,560.
Silas, Cecil J., and Scott. 2,999,274.
Walls, William S. 2,999,539.
Phyl, Joseph, to Research-Cottrell, Inc. Electrical precipitator apparatus. 2,999,561, 9–12–61, Cl. 183—7.
Pickles, Joseph, to Ferro Stamping Co. Automatic luggage compartment lid control system. 2,999,683, 9–12–61, Cl. 268—74.
Pickles, Sidney. Shielded antenna. 3,000,008, 9–12–61, Cl. 343—792.
Pini, Roy P. Calculating rule. 2,999,633, 9–12–61, Cl. 235—61.
Pinkley, Clyde W., to Industrial Nucleonics Corp. Signal switch and readout for nuclear magnetic resonance measurement apparatus. 2,999,974, 9–12–61, Cl. 324—.5.
Pinkley, Clyde W., to Industrial Nucleonics Corp. Nuclear magnetic resonance measuring and control device. 2,999,975, 9–12–61, Cl. 324—.5.
Pinkley, Clyde W., to Industrial Nucleonics Corp. Nuclear magnetic resonance measuring apparatus. 2,999,978, 9–12–61, Cl. 324—.5.
Pittsburgh Plate Glass Co.: *See*—
Firestone, Vance S. 2,999,715.
Morris, John W. 2,999,779.
Richardson, Ronald E. 2,999,338.
Wismer, Marco, and Rabenold. 2,999,834.
Podschus, Ernst: *See*—
Weber, Horst, and Podschus. 2,999,734.
Pohanka, Rudolph L.: *See*—
Niederman, Bernard, and Pohanka. 2,999,989.
Pollak, Alfred, to Telefunken G.m.b.H. Pulse and noise separators. 2,999,898, 9–12–61, Cl. 178—7.3.
Polner, Sheldon. Combination dust pan and brush. 2,999,259, 9–12–61, Cl. 15—104.8.
Pontiac Specialties Mfg. Corp.: *See*—
Hunt, John W. 2,999,506.
Poos, George I., and L. H. Sarett, to Merck & Co., Inc. 11,20-bis oxygenated pregnadiene-3-one 3-ketals and process of preparing them. 2,999,859, 9–12–61, Cl. 260—239.55.
Pope, Wiley S. Tools for railway air brake hose connections. 2,999,310, 9–12–61, Cl. 29—270.
Porck, Alfred J., to E. I. du Pont de Nemours and Co. Poly-alpha-olefins stabilized with 2-hydroxy-4-pentadecylbenzophenone. 2,999,843, 9–12–61, Cl. 260—45.95.
Potash Co. of America: *See*—
Schoeld, Edmund A., Nabors, and Reiter. 2,999,595.
Powell, Charles P.: *See*—
Nichols, Edward C., and Powell. 2,999,516.
Pratt, Edmund C.: *See*—
Pratt, Verneur E. and E. C. 2,999,477.
Pratt, Verneur E. and E. C. Fire alarm. 2,999,477, 9–12–61, Cl. 116—106.
Price, Edward H.: *See*—
Burk, Robert E., and Price. 2,999,772.
Probert, Walter L., to A. O. Smith Corp. Apparatus for testing defects in metal members. 2,999,981, 9–12–61, Cl. 324—34.
Product Development Corp.: *See*—
Kiser, Albert L. 2,999,621.
Prowse, Donald W., and R. G. Rayden, to The British Thomson-Houston Co. Ltd. Control of feeding movements. 2,999,580, 9–12–61, Cl. 198—37.
Pullman Inc.: *See*—
Knippel, Willis H. 2,999,467.
Purdue Research Foundation: *See*—
Binder, Raymond C. 2,999,894.
Quinn, James M., and A. K. Schneider, to E. I. du Pont de Nemours and Co. Polymeric compositions and shaped structures thereof. 2,999,838, 9–12–61, Cl. 260—45.7.
Quinn, Paul, to W. S. Hodgkinson & Co. Ltd. Paper making. 2,999,789, 9–12–61, Cl. 162—201.
Quinn, Stanley F., to Electric & Musical Industries Ltd. Apparatus incorporating a dichroic mirror. 2,999,896, 9–12–61, Cl. 178—5.4.
Rabenold, Ronald R.: *See*—
Wismer, Marco, and Rabenold. 2,999,834.
Radcliffe, Charles S., to Concentro Corp. Apparatus for continuously crushing and selectively discharging solid materials. 2,999,649, 9–12–61, Cl. 241—39.
Radio Corp. of America: *See*—
Davis, Ralph E. 2,999,781.
Jenny, Dietrich A. 2,999,926.
Li, Kam. 2,999,987.
Mayer, Cornelius G., and Killow. 2,999,624.
Moyer, Robert C. 3,000,005.
Smith, Charles M. 2,999,895.
Radiological Research Institute, Inc.: *See*—
Ronzio, Anthony R. 2,999,747.
Ramer, Le Roy F. Belt conveyors. 2,999,582, 9–12–61, Cl. 198—192.
Rast, Wlodzimierz. Expanding tool for pipes. 2,999,529, 9–12–61, Cl. 153—80.
Rayden, Raymond G.: *See*—
Prowse, Donald W., and Rayden. 2,999,580.
Raye, Royce L. Padlock housing. 2,999,377, 9–12–61, Cl. 70—32.
Rea, Alfred. Chair bed. 2,999,250, 9–12–61, Cl. 5—13.
Redon, Andre, to Commissariat a L'Energie Atomique. Automatic device for taking samples of active solutions. 2,999,738, 9–12–61, Cl. 23—259.
Reed, Denvil E.: *See*—
Foster, Donald J., and Reed. 2,999,794.
Reeside, William O., to A. V. Smith Engineering Co. Weldment and process for making the same. 2,999,800, 9–12–61, Cl. 204—196.
Reeve, Howard R.: *See*—
Huetten, Clarence, Reeve, and Reuter. 2,999,916.
Reggio, Ferdinando C. Fuel control with feedback and force multiplication. 2,999,488, 9–12–61, Cl. 123—140.
Rehahn, Jens P., to VEB Funkwerk Kopenick. Electronic alarm system. 3,000,002, 9–12–61, Cl. 340—164.
Reichlein, William H. Cooky, biscuit and doughnut cutter. 2,999,314, 9–12–61, Cl. 30—306.
Reinhardt, Fritz, to Firma Fr. Hesser, Maschinenfabrik-Aktiengesellschaft. Flat bag package and method for fabricating same. 2,999,627, 9–12–61, Cl. 229—55.
Reiter, Joseph S.: *See*—
Schoeld, Edmund A., Nabors, and Reiter. 2,999,595.
Rekewitz, Rudolf: *See*—
Wusteney, Herbert, and Rekewitz. 2,999,899.
Remington Arms Co., Inc.: *See*—
Clay, Franklin B., Jr., Kenney, Kidder, and Vandenberg. 2,999,767.
Rempel, Herman G.: *See*—
Lundy, James H., Rempel, and Slavich. 2,999,485.
Renfrew, Edgar E., and S. R. Buc, to General Aniline & Film Corp. Method of preventing polymeric pyrrolidones and piperidones from adhering to polymerization vessels in which they are prepared. 2,999,852, 9–12–61, Cl. 260—78.
Rennick, John L.: *See*—
Heuer, Charles H., and Rennick. 2,999,897.
Republic Aviation Corp.: *See*—
Smith, Francis L. 2,999,700.
Research-Cottrell, Inc.: *See*—
Phyl, Joseph. 2,999,561.
Reuschel, Konrad, to Siemens-Schuckertwerke Aktiengesellschaft. Method and apparatus for producing hyper-pure semiconductor material, particularly silicon. 2,999,735, 9–12–61, Cl. 23—223.5.
Reuter, Charles R.: *See*—
Huetten, Clarence, Reeve, and Reuter. 2,999,916.
Reuter, Franz G.: *See*—
Kniepkamp, Ernst, and Reuter. 2,999,707.
Ulderup, Jürgen, and Reuter. 2,999,679.
Reuter, Franz G., and R. Igelbrinck, to Mobay Chemical Co. Resilient railway wheel. 2,999,717, 9–12–61, Cl. 295—11.
Revord, Leoneil J. E. Fishing apparatus. 2,999,328, 9–12–61, Cl. 43—17.
Reynolds Metals Co.: *See*—
Baxter, Bruce L. 2,999,306.
Reynolds, William G. 2,999,305.
Reynolds, William G., to Reynolds Metals Co. Spiral heat exchanger. 2,999,305, 9–12–61, Cl. 29—157.3.
Rhoads, Joseph E. Process for surfacing presoftened polyamide and an in situ curable elastomer. 2,999,764, 9–12–61, Cl. 117—47.
Rice, Arlo E. Piano key tensioning device. 2,999,411, 9–12–61, Cl. 84—439.
Rice, Richard L.: *See*—
Kingsley, David G., Rice, and Hayward. 2,999,614.
Richards, Frank A.: *See*—
Hann, Arthur, Legge, and Richards. 2,999,938.
Richardson, Gordon L.: *See*—
Martin, Albert E., Smart, and Richardson. 2,999,929.
Richardson, Robert L., to Eclipse Metal Mfg. Corp. Picnic grill. 2,999,494, 9–12–61, Cl. 126—25.
Richardson, Ronald E., to Pittsburgh Plate Glass Co. Glass bending mould. 2,999,338, 9–12–61, Cl. 49—67.
Richter, Johan C. F. C., and R. J. Johansen, to Aktiebolaget Kamyr. Method and plant for washing of cellulosic pulp under overpressure. 2,999,785, 9–12–61, Cl. 162—60.

Rickards, James C.: *See*—
Schur, Milton O., and Rickards. 2,999,503.
Riley, Thomas, D. Zaas, J. Gaser, and J. Strmac, to Apex Paper Box Co. Container and method of making the same. 2,999,430, 9–12–61, Cl. 93—36.
Ringelstetter, Leo A. Kick-stand and parking brake for bicycles and similar vehicles. 2,999,696, 9–12–61, Cl. 280—296.
Rist, Michel: *See*—
Maurice, Jean, and Rist. 2,999,573.
Ritchie, Ernest D. Dual-position handle for containers. 2,999,714, 9–12–61, Cl. 294—31.2.
Roberts, John R., to Ditto, Inc. Means for line printing. 2,999,453, 9–12–61, Cl. 101—132.
Robertson, H. H., Co.: *See*—
Singleton, Fred G., and Hunt. 2,999,824.
Roberts, Richard L., and J. W. Lynn, to Union Carbide Corp. Vapor phase synthesis of allyl cyanide. 2,999,876, 9–12–61, Cl. 260—465.9.
Robertson, Edward W. Navigational computer. 2,999,635, 9–12–61, Cl. 235—61.
Rockwell-Standard Corp.: *See*—
Bixby, Leo A., and Bartell. 2,999,695.
Stiebel, Ariel I. 2,999,921.
Roffey, William A.: *See*—
Chalmers, John W., Hall, and Roffey. 2,999,345.
Rogers, Russell V., to International Business Machines Corp. Positioning device. 2,999,392, 9–12–61, Cl. 74—55.
Roh, Nikolaus: *See*—
Broich, Franz, List, and Roh. 2,999,879.
Rohm & Haas Co.: *See*—
Craig, W E, and Van Hook. 2,999,872.
Fisher, Sallie A. 2,999,821.
Rolls-Royce Ltd.: *See*—
Eccles, George O. 2,999,303.
Morley, Frederick W. W. 2,999,667.
Murray, Frederick R. 2,999,359.
Payne, Nigel E., and Sheldon. 2,999,670.
Ward, Peter A. 2,999,656.
Ronzio, Anthony R., to Radiological Research Institute, Inc. Method of treating refractory ores for the recovery of values therefrom. 2,999,747, 9–12–61, Cl. 75—1.
Roos, Cyril J.: *See*—
Bono, Joseph J., and Roos. 2,999,521.
Roozendaal, Klaas: *See*—
Hellingman, Evert, van der Laan, and Roozendaal. 2,999,364.
Rosenthal, Sidney N., to Sneedry Chemical Products, Inc. Marking devices. 2,999,266, 9–12–61, Cl. 15—566.
Roskamp, John K. Stock feed grinding and mixing apparatus. 2,999,449, 9–12–61, Cl. 99—235.
Rosser, Charles M.: *See*—
Justice, John L., and Rosser. 2,999,782.
Rotol Ltd.: *See*—
Cameron-Johnson, Alan. 2,999,463.
Rowan, John G., to Elder Mfg. Co. Waistbands for nethergarments. 2,999,246, 9–12–61, Cl. 2—221.
Royal McBee Corp.: *See*—
Lapointe, Lloyd J. 2,999,625.
Rubber Fabricators, Inc.: *See*—
Lanciano, Claude O., Jr., and Zannoni. 2,999,255.
Rumpf, Hans: *See*—
Wehn, Julius, and Rumpf. 2,999,563.
Russell, Monica. Hair curler. 2,999,504, 9–12–61, Cl. 132—41.
Sandor, Aurelius, to Sylvania Electric Products Inc. Apparatus and method for producing cathode ray tubes. 2,999,300, 9–12–61, Cl. 29—25.19.
Sandoz Ltd.: *See*—
Geiger, Georg. 2,999,862.
Sarett, Lewis H.: *See*—
Poos, George I., and Sarett. 2,999,859.
Satcherl, John: *See*—
Warner, Alden Y., Craven, and Satcherl. 2,999,288.
Sato, Mikio: *See*—
Okawa, Kenji, and Sato. 2,999,878.
Saubestre, Edward B., and E. P. Bulan, to Sylvania Electric Products Inc. Electroplating of niobium. 2,999,799, 9–12–61, Cl. 204—42.
Saunders, Alfred P., to Wildt Mellor Bromley Ltd. Circular knitting machines equipped with wrap thread mechanism. 2,999,375, 9–12–61, Cl. 66—135.
Saunders, Earle R., R. M. Franks, and C. A. Beiser, to Union Carbide Corp. Method for producing non-aging rimmed steels. 2,999,749, 9–12–61, Cl. 75—58.
Schabert, Robert: *See*—
Graulich, Wilhelm, Sinn, Nottebohm, and Schabert. 2,999,773.
Schade, Harald J. G. Sieve structures. 2,999,598, 9–12–61, Cl. 210—488.
Schaefer, Edward J. Lubricator system. 2,999,725, 9–12–61, Cl. 308—78.
Schagen, Pieter, and N. D. R. Calder, to North American Philips Co., Inc. Cathode ray tube. 2,999,957, 9–12–61, Cl. 313—79.
Schappel, Joseph W., to American Viscose Corp. Production of soil-resistant material. 2,999,774, 9–12–61, Cl. 117—139.5.
Schell, James H., A. Douty, and H. L. Faigen, to Amchem Products, Inc. Inhibitor composition. 2,999,811, 9–12–61, Cl. 252—8.55.
Schenck, Leslie M., to General Aniline & Film Corp. Process of improving the odor of sulfoalkyl esters of fatty acids. 2,999,871, 9–12–61, Cl. 260—400.
Scheunert, Alfred, to Siemens & Halske Aktiengesellschaft Berlin and Munich. Connector for extending telephone calls to lines with different service requirements. 2,999,901, 9–12–61, Cl. 139—17.
Schilberg, Arnold G., to A. O. Smith Corp. Flange reinforced embossment. 2,999,312, 9–12–61, Cl. 29—545.
Schindler, Karl, to Henschel-Werke G.m.b.H. Spring construction. 2,999,677, 9–12–61, Cl. 267—2.
Schliephacke, Fridtjof F., to A. Lorenz. Reclining chair with folded back-rest and control. 2,999,719, 9–12–61, Cl. 297—85.
Schliephacke, Fridtjof F., to A. Lorenz. Leg-rest control for reclining chair. 2,999,720, 9–12–61, Cl. 297—89.
Schlumbohm, Peter. Ladies' handbag. 2,999,522, 9–12–61, Cl. 150—28.
Schmidt, Alfred T. Neon flash light assembly. 2,999,922, 9–12–61, Cl. 240—11.4.
Schmidt, Alfred T. Flasher light casing construction. 2,999,923, 9–12–61, Cl. 240—11.4.
Schnecke, Paul, to Siemens-Schuckertwerke Aktiengesellschaft. Power current rectifier with semiconducting retifier units. 2,999,971, 9–12–61, Cl. 321—27.
Schneider, Allan K.: *See*—
Quinn, James M., and Schneider. 2,999,838.
Schneider, Heinz, to Siemens-Schuckertwerke Aktiengesellschaft. Dry rectifier of small type. 2,999,963, 9–12–61, Cl. 317—234.
Schnell, Hermann, and H. Krimm. High molecular weight thermoplastic aromatic sulfoxy polycarbonates. 2,999,846, 9–12–61, Cl. 260—49.
Schoeld, Edmund A., J. D. Nabors, and J. S. Reiter, to Potash Co. of America. Apparatus for flotation concentration in coarse size range. 2,999,595, 9–12–61, Cl. 209—170.
Schomburg, Walter E., to Whirlpool Corp. Home appliance. 2,999,368, 9–12–61, Cl. 62—272.
Schoot, Cornelis J., and J. H. Van Rij, to North American Philips Co., Inc. Method of producing diphenyl sulphones. 2,999,883, 9–12–61, Cl. 260—607.
Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Esters of phosphoric and thiophosphoric acids containing sulfoxide groups and process for their production. 2,999,874, 9–12–61, Cl. 260—461.
Schramm, Harry B.: *See*—
Grimmer, George G., and Schramm. 2,999,546.
Schur, Milton O., and J. C. Rickards, to Olin Mathieson Chemical Corp. Filter. 2,999,503, 9–12–61, Cl. 131—208.
Schurer, Friedrich. Container for taking and storing of biological fluids. 2,999,500, 9–12–61, Cl. 128—276.
Schuster, Roman. Grinding blocks. 2,999,742, 9–12–61, Cl. 51—293.
Schwab, Max, deceased; O. B. Schwab, nee Bonner, sole devisee. Drive and stop apparatus for sewing machines. 2,999,575, 9–12–61, Cl. 192—146.
Schwab, O. B.: *See*—
Schwab, Max. 2,999,575.
Schwalbach, Joseph C., to Baso Inc. Flow control device. 2,999,536, 9–12–61, Cl. 158—123.
Schwartz, Daniel M., to The Eimco Corp. Vehicle drive arrangement. 2,999,553, 9–12–61, Cl. 180—6.7.
Schwartz, Harold A., to Patchogue-Plymouth Corp. Backings for tufted fabrics. 2,999,297, 9–12–61, Cl. 28—80.
Schwesig, Heinz, and K. Bischoff, to Siemens-Reiniger-Werke Aktiengesellschaft. Circuit arrangement for X-ray apparatus providing for three-phase full wave rectification of alternating current. 2,999,970, 9–12–61, Cl. 321—27.
Scott, John N., Jr.: *See*—
Silas, Cecil J., and Scott. 2,999,274.
Searle, G. D., & Co.: *See*—
Krimmel, Carl P. 2,999,860.
Seefluth, Charles L., to Phillips Petroleum Co. Separation for flare systems. 2,999,560, 9–12–61, Cl. 183—2.5.
Segre, Diego, to United States of America, Health, Education and Welfare. Serologic test. 2,999,792, 9–12–61, Cl. 167—84.5.
Seiz, Edward A. Interlock. 2,999,570, 9–12–61, Cl. 189—36.
Selas Corp. of America: *See*—
Erhardt, John E., Jr., and Siegel. 2,999,675.
Semmelroth, Albert N., to Virco Mfg. Corp. Adjustable support for a platform. 2,999,729, 9–12–61, Cl. 311—39.
Seward, Harold H. Servo systems. 2,999,967, 9–12–61, Cl. 318—171.
Shafer, Orville B., to International Business Machines Corp. Electrical circuit connector apparatus. 2,999,918, 9–12–61, Cl. 200—166.
Shaffer, Robert C.: *See*—
Treat, Leo H., and Shaffer. 2,999,829.
Shalit, Harold, to Houdry Process Corp. High purity silicon. 2,999,736, 9–12–61, Cl. 23—223.5.
Shappel, Stanley C., to Sylvania Electric Products Inc. Base threading and welding method and apparatus. 2,999,299, 9–12–61, Cl. 29—25.13.
Sharp, Donald E., to Libbey-Owens-Ford Glass Co. Apparatus and method for making multiple sheet glazing units. 2,999,337, 9–12–61, Cl. 49—1.
Sheldon, Ernest F.: *See*—
Payne, Nigel E., and Sheldon. 2,999,670.
Shell Oil Co.: *See*—
Buningh, Welgert C., and Ten Have. 2,999,807.
Papadopoulos, Michael N., and Deal. 2,999,892.
Stratton, Hal. 2,999,549.
Shelly, Robert S., to Pack Mfg. Co. Double line spacer and micrometer mechanism for ruling machines. 2,999,318, 9–12–61, Cl. 33—81.
Sheridan, T. W., & C. B., Co.: *See*—
Young, Clarence R., and Easton. 2,999,242.
Sherwood, John F. Differential diameter reciprocated shaft and supporting means therefor. 2,999,724, 9–12–61, Cl. 308—4.
Sherwood, Walter A., to Chandler Evans Corp. Potentiometer. 2,999,993, 9–12–61, Cl. 338—176.
Shiner, Edward A., and C. J. Brounstein, to Union Carbide Corp. Method for producing cellulosic sausage casings and product. 2,999,756, 9–12–61, Cl. 99—176.
Shiner, Edward A., and C. J. Brounstein, to Union Carbide Corp. Method for producing cellulosic sausage casings and product. 2,999,757, 9–12–61, Cl. 99—176.

Shipley, Robert E., to Eli Lilly and Co. Spirometer recording device. 2,999,495, 9–12–61, Cl. 128—2.08.
Shuter, William M. Hanger. 2,999,661, 9–12–61, Cl. 248—62.
Sich, John A., Jr. Spinning lure. 2,999,330, 9–12–61, Cl. 43—42.2.
Siebertz, Karl, to Siemens and Halske Aktiengesellschaft Berlin and Munich. Production of highly pure single crystal semiconductor rods. 2,999,737, 9–12–61, Cl. 23—223.5.
Siegel, Elhardt M.: *See*—
Erhardt, John E., Jr., and Siegel. 2,999,675.
Siemens & Halske Aktiengesellschaft: *See*—
Dorendorf, Heinz, and Henker. 2,999,776.
Siemens & Halske Aktiengesellschaft Berlin and Munich: *See*—
Lohs, Willy, Sommer, and Thom. 2,999,904.
Pfleiderer, Friedrich, and Thiele. 2,999,915.
Scheunert, Alfred. 2,999,901.
Siebertz, Karl. 2,999,737.
Wusteney, Herbert, and Rekewitz. 2,999,899.
Siemens-Reiniger-Werke Aktiengesellschaft: *See*—
Schwesig, Heinz, and Bischoff. 2,999,970.
Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Filberich, Ludwig. 2,999,961.
Hoffmann, Arnulf, and Hartel. 2,999,940.
Reuschel, Konrad. 2,999,735.
Schnecke, Paul. 2,999,971.
Schneider, Heinz. 2,999,963.
Silas, Cecil J., and J. N. Scott, Jr., to Phillips Petroleum Co. Dispersing solid additives in plastics. 2,999,274, 9–12–61, Cl. 18—30.
Sims, Willard M.: *See*—
Honn, Francis J., and Sims. 2,999,854.
Singer Mfg. Co., The: *See*—
Mendles, Walter J. 2,999,474.
Singleton, Fed G., and W. C. Hunt, to H. H. Robertson Co. Polyepoxide products. 2,999,824, 9–12–61, Cl. 260—18.
Sinn, Gustav: *See*—
Graulich, Wilhelm, Sinn, Nottebohn, and Schabert. 2,999,773.
Sjogren, Tore A., to Aktiebolaget Broby Armaturfabrik. Valves. 2,999,666, 9–12–61, Cl. 251—82.
Slagel, Lamont, and H. A. Mead, to Dairy Containers, Inc. Apparatus for making bags. 2,999,533, 9–12–61, Cl. 154—42.
Slater, John M.: *See*—
Freebairn, Darwin L., and Slater. 2,999,391.
Slavich, Ralph: *See*—
Lundy, James H., Rempel, and Slavich. 2,999,485.
Slotterbeck, Ober C.: *See*—
Gleason, Anthony H., and Slotterbeck. 2,999,891.
Smart, John: *See*—
Martin, Albert E., Smart, and Richardson. 2,999,929.
Smejda, Oscar J., to Christiania Spigerverk. Apparatus for arrangement of rods. 2,999,603, 9–12–61, Cl. 214—1.
Smith, A. O., Corp.: *See*—
Burklin, Adolf J., and Lauck. 2,999,930.
Ewart, John C. 2,999,405.
Johnson, Arthur E. 2,999,950.
Probert, Walter L. 2,999,981.
Schilberg, Arnold G. 2,999,312.
Smith, A. V., Engineering Co.: *See*—
Reeside, William O. 2,999,800.
Smith, Charles M., to Radio Corp. of America. Spacer for mounting electrical elements on supports. 2,999,895, 9–12–61, Cl. 174—138.
Smith, Edward W., and G. V. Copland, to Halliburton Co. Acoustic detecting and locating apparatus. 2,999,557, 9–12–61, Cl. 181—.5.
Smith, Francis L., to Republic Aviation Corp. Coupling for flared end tubes including inner and outer sleeve elements. 2,999,700, 9–12–61, Cl. 285—332.3.
Smith, Gus T., to Marvel Specialty Co., Inc. Hosiery inspecting, stacking and bundling apparatus. 2,999,618, 9–12–61, Cl. 223—43.
Smith, John R. Vacuum dandruff hair brush. 2,999,263, 9–12–61, Cl. 15—344.
Snitzer, Elias: *See*—
Beard, Richard B., and Snitzer. 2,999,379.
Societa Farmaceutici Italia: *See*—
Camerino, Bruno, Modelli, and Patelli. 2,999,870.
Vercellone, Alberto, and Panizzi. 2,999,877.
Societe Anonyme dite: La Manufacture de Feutres de Mouzon-Anciens Etablissements Roger Sommer et Ses Fils: *See*—
Sommer, Francois N. 2,999,763.
Societe Anonyme Francaise du Ferodo: *See*—
Maurice, Jean, and Rist. 2,999,573.
Societe Marocaine de Recherches, d'Etudes et de Developpements "Somarede": *See*—
Torcheux, Emile, and Honore. 2,999,919.
Socony Mobil Oil Co., Inc.: *See*—
Boenau, Arthur H. 2,999,765.
Duval, Claiborne A., Jr. 2,999,803.
Laug, Ernst. 2,999,814.
Sommer, Francois N., to Societe Anonyme dite: La Manufacture de Feutres de Mouzon-Anciens Etablissements Roger Sommer et Ses Fils. Method of applying flock to a fabric. 2,999,763, 9–12–61, Cl. 117—33.
Sommer, Friedrich: *See*—
Lohs, Willy, Sommer, and Thom. 2,999,904.
Sosnick, Benjamin. Mist and spray production method and nozzle designs for its usage. 2,999,647, 9–12–61, Cl. 239—468.
Soumerai, Henri, to Worthington Corp. Interchangeable, hermetic and open-type refrigeration compressor. 2,999,629, 9–12–61, Cl. 230—58.
Sparkman, Colonel. Livestock chute gate. 2,999,480, 9–12–61, Cl. 119—98.
Speedry Chemical Products, Inc.: *See*—
Rosenthal, Sidney N. 2,999,266.
Spencer, Glenn S., to The Bendix Corp. Engine starter drives. 2,999,705, 9–12–61, Cl. 287—52.08.
Spencer, William H., and J. D. Brown, to Ultra-Tach Co. Insulation mounting. 2,999,277, 9–12–61, Cl. 20—4.
Spencer, William H., and J. D. Brown, to Ultra-Tach Co. Insulation mounting. 2,999,278, 9–12–61, Cl. 20—4.
Sperry Rand Corp.: *See*—
Lipkin, Daniel M. 2,999,639.
Sperry Rand Corp., Ford Instrument Co. Division: *See*—
Weiss, Marvin. 2,999,968.
Spooner, David L., to Industrial Nucleonics Corp. Measuring system. 2,999,932, 9–12–61, Cl. 250—83.
Spraying Systems Co.: *See*—
Wahlin, Fred W., and O'Brien. 2,999,648.
Spreitzer, Henry W., to The Warner & Swasey Co. Machine tool. 2,999,408, 9–12–61, Cl. 82—14.
Staley, A. E., Mfg. Co.: *See*—
Miller, James L. 2,999,761.
Stamm, Robert F., and P. A. Button, to American Cyanamid Co. Light beam weakener. 2,999,414, 9–12–61, Cl. 88—1.
Stanaway, Robert E., to Consolidated Electrodynamics Corp. Magnetic switch. 2,999,914, 9–12–61, Cl. 200—87.
Standard Oil Co.: *See*—
Mosher, Robert A., and Stanley. 2,999,462.
Stanley, William G.: *See*—
Mosher, Robert A., and Stanley. 2,999,462.
Stanulis, Leonard M., to Whirlpool Corp. Home appliance. 2,999,367, 9–12–61, Cl. 62—139.
Stap, Sjoerd T.: *See*—
Klasens, Hendrik A., Diemer, and Stap. 2,999,942.
Stapling Machines Co.: *See*—
Kingsley, David G. 2,999,616.
Kingsley, David G., and Hayward. 2,999,615.
Kingsley, David G., Rice, and Hayward. 2,999,614.
Starcher, Paul S.: *See*—
Phillips, Benjamin, Starcher, and Heywood. 2,999,868.
Starcher, Paul S., and S. W. Tinsley, to Union Carbide Corp. Epoxides and method of preparing the same. 2,999,866, 9–12–61, Cl. 260—348.
Starcher, Paul S., and S. W. Tinsley, to Union Carbide Corp. Epoxides and method of making the same. 2,999,867, 9–12–61, Cl. 260—348.
Starr, Henry J. Stapling device. 2,999,241, 9–12–61, Cl. 1—49.
Staset Co., Inc., The: *See*—
Blair, Otis E. 2,999,493.
Staudt, Erwin: *See*—
Harter, Paul, and Staudt. 2,999,435.
Stearns, Donald J. Means for unblocking pipes. 2,999,264, 9–12–61, Cl. 15—406.
Steele, James R., and S. M. Lounsberry, Jr., to Moore & Steele Corp. Rail anchors. 2,999,641, 9–12–61, Cl. 238—327.
Stein, Jack, to Art Industries, Inc. Table place mat. 2,999,332, 9–12–61, Cl. 45—68.4.
Sterling Drug Inc.: *See*—
Alford, Charles E. 2,999,790.
Sterling, John, Corp.: *See*—
Sterling, John G., and Dornbreck. 2,999,267.
Sterling, John G., and G. L. Dornbreck, to John Sterling Corp. Sliding door hanger assembly. 2,999,267, 9–12–61, Cl. 16—105.
Stern, Hans. Classification of materials. 2,999,593, 9–12–61, Cl. 209—144.
Stern, Joseph M., and R. H. Fuller, to Pacific Semiconductors, Inc. Semiconducting diode recovery tester. 2,999,983, 9–12–61, Cl. 324—158.
Stewart Development Co.: *See*—
Stewart, Hugh T. 2,999,831.
Stewart, Hugh T., to Stewart Development Co. Vulcanized rubber product containing a metal hydride as an antioxidant. 2,999,831, 9–12–61, Cl. 260—33.6.
Stiebel, Ariel I., to Rockwell-Standard Corp. Electronically controlled working processes. 2,999,921, 9–12–61, Cl. 219—7.5.
Stier, Reinhardt, and E. Hofmann, to Robert Bosch, G.m.b.H. Fuel injection pump for multicylinder internal combustion engines. 2,999,487, 9–12–61, Cl. 123—139.
Stierlin, Hans. Generator assembly for absorption refrigerating system of the pressure-equalized gas type. 2,999,373, 9–12–61, Cl. 62—497.
Stinger, Henry J., and T. M. Urban, to E. I. du Pont de Nemours and Co. Electric blasting cap. 2,999,460, 9–12–61, Cl. 102—28.
Stinson, John A.: *See*—
Hammes, Frederic J. 2,999,952.
Stone, Florence B., to Vacuum Ventures, Inc. Dispensing device. 2,999,642, 9–12–61, Cl. 239—52.
Strandengen, Einar, to A/S Grorud Jernvarefabrik. Friction hinge, especially for pivot windows. 2,999,268, 9–12–61, Cl. 16—141.
Stratton, Hal, to Shell Oil Co., Continental Oil Co., Superior Oil Co., and Union Oil Co. of California. Drilling. 2,999,549, 9–12–61, Cl. 175—5.
Strecker, William: *See*—
Kinzbach, Robert B., and Strecker. 2,999,541.
Strmac, John: *See*—
Riley, Thomas, Zaas, Gaser, and Strmac. 2,999,430.
Stroman, Larry J., to Dresser Industries, Inc. Stabilized power supply. 2,999,972, 9–12–61, Cl. 323—44.
Stroud, Malcolm B., and D. F. Greene, ⅓ to H. W. Brelsford. Motorized litter. 2,999,555, 9–12–61, Cl. 180—19.
Studebaker-Packard Corp.: *See*—
Warnken, Elmer P. 2,999,272.
Stump, Eugen, to Daimler-Benz Aktiengesellschaft. Pneumatic spring system for motor vehicles. 2,999,682, 9–12–61, Cl. 267—65.

Sturmer, Leonard J. Anti-skid sanding device. 2,999,711, 9–12–61, Cl. 291—3.
Sundholm, Norman K., and W. L. Hubbard, to United States Rubber Co. Method of killing algae. 2,999,810, 9–12–61, Cl. 210—64.
Sundstrand Corp.: *See*—
Zwick, Eugene B. 2,999,358.
Superior Oil Co.: *See*—
Stratton, Hal. 2,999,549.
Sutherland, George L.: *See*—
Gleckler, George C., and Sutherland. 2,999,881.
Sutton Engineering Co.: *See*—
Kurtak, Joseph A. 2,999,528.
Svendsen, Ib H.: *See*—
Coughlin, Charles L., Gumtow, Svendsen, and Brown. 2,999,489.
Svenska Aktiebolaget Gasaccumulator: *See*—
Granqvist, Carl-Erik. 2,999,389.
Swanson, Donald F., and E. J. Buzicky, to Whirlpool Corp. Tandem plate automatic ice cube maker. 2,999,369, 9–12–61, Cl. 62—320.
Swart, Gilbert H.: *See*—
Pfau, Emert S., Swart, and Weinstock. 2,999,822.
Swartz, Walter C. Automatic telephone dialer. 2,999,902, 9–12–61, Cl. 179—90.
Sylvania Electric Products Inc.: *See*—
Bowerman, Edwin R., Jr., and Marko. 2,999,958.
Morrison, George H., Palilla, and Zloczower. 2,999,818.
Sandor, Aurelius. 2,999,300.
Saubestre, Edward B., and Bulan. 2,999,799.
Shappell, Stanley C. 2,999,299.
Zack, Albert. 2,999,990.
Taff, Albert W., J. M. White, and R. E. Kolb, to Warner-Lambert Pharmaceutical Co. Process of granulating effervescent materials. 2,999,293, 9–12–61, Cl. 25—156.
Tailleur, Andre M., to International Business Machines Corp. High speed punch mechanism. 2,999,632, 9–12–61, Cl. 234—109.
Takahama, Sho, to Yashica Co., Ltd. Automatic photographic diaphragm. 2,999,442, 9–12–61, Cl. 95—10.
Takamatsu, Tetsuya: *See*—
Terai, Tomio, and Takamatsu. 2,999,783.
Tancredi, Henry, and F. W. Kulicke, to Kulicke & Soffa Mfg. Co. Shipping case opener. 2,999,607, 9–12–61, Cl. 214—304.
Tanner, Charles S., Co.: *See*—
Wagner, Josef. 2,999,646.
Tarnoff, Dorothy B.: *See*—
Duane, Jerome J., and Tarnoff. 2,999,265.
Taube, Joe A.: *See*—
Logan, Hugh H., Nelson, Dixon, and Taube. 2,999,248.
Taylor, Arthur S.: *See*—
Bott, George S., and Taylor. 2,999,588.
Taylor, Laurens A., to United States of America, War. Radiation detector apparatus. 2,999,934, 9–12–61, Cl. 250—83.3.
Taylor Mfg. Co., Inc.: *See*—
Chalich, Charles. 2,999,604.
Technicon Instruments Corp.: *See*—
Isreeli, Jack. 2,999,417.
Kessler, Gerald. 2,999,673.
Telefunken G.m.b.H.: *See*—
Pollak, Alfred. 2,999,898.
Ten Bosch, M., Inc.: *See*—
Ten Bosch, Maurits, and Lang. 2,999,390.
Ten Bosch, Maurits, and P. Lang, to M. Ten Bosch, Inc. Non-tumbling vertical gyroscope system. 2,999,390, 9–12–61, Cl. 74—5.34.
Tenger, Jan, to North American Philips Co., Inc. Device for holding objects more particularly welding rods. 2,999,289, 9–12–61, Cl. 24—248.
Ten Have, Cornelis D.: *See*—
Buningh, Weigert C., and Ten Have. 2,999,807.
Terai, Tomio, and T. Takamatsu, to Hodogaya Kagahu Kogyo Kabushiki Kaisha. Process for simultaneous production of high α-pulp with furfural from latifoliate tree materials. 2,999,783, 9–12–61, Cl. 162—14.
Texaco Inc.: *See*—
Dille, Roger M., Chapman, and Ahlborn. 2,999,741.
Givens, Richard C., and Hefty. 2,999,813.
Herzog, Gerhard, and Wood. 2,999,936.
Thamme, Eric P. Discharge mechanism for sand classifiers. 2,999,594, 9–12–61, Cl. 209—162.
Thiéle, Otto A.: *See*—
Pfleiderer, Friedrich, and Thiéle. 2,999,915.
Thiessen, George J., and I. R. Dagg, to National Research Council. Densimeter. 2,999,380, 9–12–61, Cl. 73—32.
Thilmany Pulp & Paper Co.: *See*—
Downs, Martin L., and Nelson. 2,999,786.
Downs, Martin L., and Nelson. 2,999,787.
Thom, Gunter: *See*—
Lohs, Willy, Somner, and Thom. 2,999,904.
Thomas, Elmer, to Page Communications Engineers, Inc. Variable decision threshold computer. 2,999,925, 9–12–61, Cl. 250—8.
Thompson, Harry H. Electrical reset timing devices. 2,999,949, 9–12–61, Cl. 307—141.5.
Thompson, Ralph B., to Universal Oil Products Co. Treatment of hydrocarbon distillates. 2,999,806, 9–12–61, Cl. 208—206.
Thompson, Thomas G. Masking-tape applicator. 2,999,609, 9–12–61, Cl. 216—29.
Thorne, Harold, to Gordon S. Lexton. Garment creasing device. 2,999,619, 9–12–61, Cl. 223—74.
Thorson, John R., to ACF Industries, Inc. Trailer-mounted missile rack. 2,999,693, 9–12–61, Cl. 280—29.
Tidewater Oil Co.: *See*—
Banigan, Thomas F., Jr. 2,999,740.
Time, Inc.: *See*—
Brink, Robert M. 3,000,001.
Tinsley, Samuel W.: *See*—
Starcher, Paul S., and Tinsley. 2,999,866.
Starcher, Paul S., and Tinsley. 2,999,867.
Tobler, Erich: *See*—
Foster, Donald J., and Tobler. 2,999,889.
Tochihara, Shigezo: *See*—
Hoshino, Yashushi, Namikawa, and Tochihara. 2,999,907.
Hoshino, Yashushi, Namikawa, and Tochihara. 2,999,908.
Tongue, Ben H., to Blonder-Tongue Electronics. Electron-tube stabilized amplifier. 2,999,985, 9–12–61, Cl. 330—80.
Torcheux, Emile, and E. Honore, to Societe Marocaine de Recherches, d'Etudes et de Developpments "Somarede." Vibrator devices. 2,999,919, 9–12–61, Cl. 200—166.
Townsend Co.: *See*—
Gapp, Roland H. 2,999,610.
Toy, Arthur D. F.: *See*—
Lauck, Robert M., and Toy. 2,999,754.
Trans Sonics, Inc.: *See*—
Wolfe, Russell. 2,999,385.
Wolfe, Russell. 2,999,386.
Treat, Leo H., and R. C. Shaffer. Aqueous shell molding composition comprising maleic acid, furfuryl alcohol and urea. 2,999,829, 9–12–61, Cl. 260—29.6.
Troutman, Clarence A. Knockdown cabinet structure. 2,999,730, 9–12–61, Cl. 312—257.
Tuchel, Ulrich. Electrical socket for printed circuit cards. 2,999,997, 9–12–61, Cl. 339—17.
Turck, Karl H. W.: *See*—
Crocker, Henry P., and Turck. 2,999,888.
Ulderup, Jürgen, and F. G. Reuter, to Mobay Chemical Co. Spring mount. 2,999,679, 9–12–61, Cl. 267—49.
Ultra-Tach Co.: *See*—
Spencer, William H., and Brown. 2,999,277.
Spencer, William H., and Brown. 2,999,278.
Underwood Corp.: *See*—
Holden, Martin P. 2,999,578.
Underwood, Orville J.: *See*—
Petry, Eduard C., and Underwood. 2,999,353.
Ungerer, Fritz. Sheet metal working machine with straightening rollers. 2,999,530, 9–12–61, Cl. 153—106.
Union Carbide Corp.: *See*—
Barth, Bruce P. 2,999,283.
Foster, Donald J., and Reed. 2,999,794.
Foster, Donald J., and Tobler. 2,999,889.
McGary, Charles W., Jr., and Patrick. 2,999,827.
Phillips, Benjamin, and Frostick. 2,999,865.
Phillips, Benjamin, Starcher, and Heywood. 2,999,868.
Roberts, Richard L., and Lynn. 2,999,876.
Saunders, Earle R., Franks, and Beiser. 2,999,749.
Shiner, Edward A., and Brounstein. 2,999,756.
Shiner, Edward A., and Brounstein. 2,999,757.
Starcher, Paul S., and Tinsley. 2,999,866.
Starcher, Paul S., and Tinsley. 2,999,867.
Young, Donald M., and Horn. 2,999,848.
Young, Donald M., and Horn. 2,999,849.
Young, Donald M., and Horn. 2,999,850.
Union Oil Co. of California: *See*—
Fleck, Raymond N., and Wight. 2,999,861.
Stratton, Hal. 2,999,549.
Union Tank Car Co.: *See*—
Kryzer, Benjamin H. 2,999,514.
Unipress Co., The: *See*—
Carpenter, Virgil R. 2,999,917.
United States of America
Army: *See*—
Woll, Harry J. 2,999,979.
Health, Education and Welfare: *See*—
Segre, Diego. 2,999,792.
War: *See*—
Green, Charles F. 2,999,933.
Taylor, Laurens A. 2,999,934.
United States Rubber Co.: *See*—
Sundholm, Norman K., and Hubbard. 2,999,810.
Universal Oil Products Co.: *See*—
Brown, Kenneth M. 2,999,808.
Thompson, Ralph B. 2,999,806.
Universal Sewer Pipe Corp.: *See*—
Lafferty, Wylie M. 2,999,699.
University of California, The Regents of the: *See*—
Bromley, LeRoy A. 2,999,796.
Unmuth, George E.: *See*—
Dannenbrink, Robert W., and Unmuth. 2,999,828.
Upham, Sidney D., to Oklahoma State University of Agriculture and Applied Science. Alpha-phthalimido-acetamide derivatives. 2,999,863, 9–12–61, Cl. 260—326.
Uraguchi, Yuzo: *See*—
Yagi, Sakae, and Uraguchi. 2,999,795.
Urban, Tadeusz M.: *See*—
Stinger, Henry J., and Urban. 2,999,460.
Utley, Charles J. Bowling game pin elevating and ball returning apparatus. 2,999,691, 9–12–61, Cl. 273—44.
VEB Funkwerk Kopenick: *See*—
Rehahn, Jens P. 3,000,002.
VEB Kamera- und Kinowerke Dresden: *See*—
Hahn, Erich and W., and Noack. 2,999,437.
Hauptvogel, Herbert, and Korf. 2,999,423.
VISI Record, Inc.: *See*—
Weston, Herbert, and Anderson. 2,999,501.
Vacuum Ventures, Inc.: *See*—
Stone, Florence B. 2,999,642.
Valvano, Ralph A. Can opener and sealer. 2,999,612, 9–12–61, Cl. 220—51.
Vandenberg, Raymond H.: *See*—
Clay, Franklin B., Jr., Kenney, Kidder, and Vandenberg. 2,999,767.

Van der Laan, Cornelis J. M.: *See*—
Hellingman, Evert, Van der Laan, and Roozendaal. 2,999,364.

Van Der Ster, Johannes, to North American Philips Co., Inc. Double-walled pipe for liquified gas. 2,999,363, 9–12–61, Cl. 62—6.

Van Doorne, Hubertus J. Belt transmission with at least one axially expandable belt pulley. 2,999,395, 9–12–61, Cl. 74—242.14.

Van Hook, John O'N.: *See*—
Craig, W E, and Van Hook. 2,999,872.

Van Rij, Johan H.: *See*—
Schoot, Cornelis J., and Van Rij. 2,999,883.

Van Santen, Johannes G.: *See*—
Klasens, Hendrik A., Van Santen, and Joormann. 2,999,941.

Van Winsen, Friedrich H.: *See*—
Müller, Josef, Van Winsen, and Zimmer. 2,999,681.

Varian Associates: *See*—
Abler, Robert A., Becker, and Clifford. 2,999,448.

Vartanian, Richard D.: *See*—
Nemes, Joseph J., and Vartanian. 2,999,847.

Vercellone, Alberto, and L. Panizzi, to Societa Farmaceutici Italia. Synthesis of 1,4-dicaffeyl-quinic acid. 2,999,877, 9–12–61, Cl. 260—473.

Verdier, Andre L. Process for manufacturing binary mixtures of liquid substances with a pulverulent material. 2,999,762, 9–12–61, Cl. 106—309.

Victor Chemical Works: *See*—
Lauck, Robert M., and Toy. 2,999,754.

Virco Mfg. Corp.: *See*—
Semmelroth, Albert N. 2,999,729.

Voigtlander A.G.: *See*—
Faulhaber, Fritz. 2,999,436.
Mische, Friedrich. 2,999,416.

Volpin, Alexander S. Automatic lubricant-sealed plug valve. 2,999,510, 9–12–61, Cl. 137—246.12.

Von Hein, Eduard: *See*—
Burki, René, and Von Hein. 2,999,685.

Vuurmans, Johannes: *See*—
Beukema, Willem, Bruijning, and Vuurmans. 2,999,302.

Wagner, Hans, to Fireless Gas Heater Corp. Catalytic heating device. 2,999,534, 9–12–61, Cl. 158—99.

Wagner, John H., to Joy Mfg. Co. Machine propelling mechanism. 2,999,554, 9–12–61, Cl. 180—6.48.

Wagner, Josef, to Charles S. Tanner Co. Spray gun. 2,999,646, 9–12–61, Cl. 239—332.

Wahl Clipper Corp.: *See*—
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Classification of Designs

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OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

September 12, 1961 Volume 770 Number 2

TRADEMARKS

NOTICES

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Appellant's Brief

The following amendment is made, to take effect on publication in the FEDERAL REGISTER. Notice and public procedure, and deferment of the time of taking effect, are deemed unnecessary in view of the nature of the amendment, which is procedural only.

The purpose of this change is to expedite the handling of requests for extensions of time for filing appeal briefs by providing that short extensions may be handled by the Board of Appeals, instead of by the Commissioner. Any extension to a date more than sixty days from the original expiration date must still be sought from the Commissioner, by request brought prior to the expiration of the time sought to be extended. Failure to file either the brief or an appropriate request for extension within the allotted time results in the appeal standing dismissed (37 CFR 1.192(b)) with the consequent abandonment of the application if no claim stands allowed (37 CFR 1.197(c)).

Paragraph (a) is amended by adding the following sentences at the end thereof:

§ 1.192 Appellant's brief.

(a) * * * The Board of Appeals may, for sufficient cause shown, extend the time for filing the brief to a date not later than sixty days after the original expiration date. Any longer or further extension must be sought from the Commissioner. All requests for extensions must be filed prior to the expiration of the period sought to be extended.

(Sec. 1, 66 Stat. 793; 35 U.S.C. Interprets or applies sec. 1, 66 Stat. 801; 35 U.S.C. 134)

Dated: July 28, 1961.

DAVID L. LADD,
Commissioner of Patents.

Approved:

HICKMAN PRICE, JR.,
Assistant Secretary of Commerce for Domestic Affairs.

[F.R. Doc. 61-7328; Filed, Aug. 2, 1961; 8:49 a.m.]

Published in 26 F.R. 6983, Aug. 3, 1961.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter 1—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Pending Application Index; Access to Applications

The following amended rule is adopted, to take effect on publication. The text of this rule was, except in one particular, published in the Federal Register for May 20, 1961 (26 F.R. 4404), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed rule. The amended rule is

CONDITION OF TRADEMARK APPLICATIONS AS OF JULY 31, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]		13,364
Date of oldest new application	January	16, 1961
Date of oldest amended application	January	12, 1961

J. H. MERCHANT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	1-16-61	1-12-61
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-2-61	2-2-61
Renewals (All Classes)	7-3-61	7-21-61
Sec. 12 (c) Publications (All Classes)	6-7-61	6-29-61

Applications filed during the month of July 1961—1870

Registrations Issued	301—No. 721,163 to No. 721,463
Renewals Issued	66

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

adopted after consideration of all the material submitted. The rule departs from the published text in the particular addition in the final sentence of paragraph (a), after the word "Commissioner," of the words "and the Trademark Trial and Appeal Board." The added reference to said board is merely informational in character, and notes the significance its decisions have shared with those of the Commissioner since its establishment in accordance with the provisions of Public Law 85-609, approved August 8, 1958, 72 Stat. 540.

Sec. 2.27 is amended to read as follows:

§ 2.27 *Pending application index; access to applications.*

(a) An index of pending applications including the name and address of the applicant, a reproduction or description of the mark, the goods or services with which the mark is used, the class number, the dates of use, and the serial number and filing date of the application will be available for public inspection as soon as practicable after filing. Access to the file of a particular pending trademark application will be permitted prior to publication under § 2.81 upon the showing in writing of good cause for such access. Decisions of the Commissioner and the Trademark Trial and Appeal Board in applications and proceedings relating thereto are published or available for inspection or publication.

(b) After a mark has been registered, or published for opposition, the file of the application and all proceedings relating thereto are available for public inspection and copies of the papers may be furnished upon paying the fee therefor.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 41, 60 Stat. 427, 440, 15 U.S.C. 1123)

DAVID L. LADD,
Commissioner of Patents.

Approved:

HICKMAN PRICE, Jr.,
Assistant Secretary of Commerce for Domestic Affairs.

[F.R. Doc. 61-7556; Filed, Aug. 9, 1961; 8:46 a.m.]

Published in 26 F.R. 7215-7216, Aug 10, 1961

Forms and Rules of Practice in Patent Cases

[37 CFR Parts 1, 3]

Notice is hereby given that the United States Patent Office proposes to amend several of its rules relating to patents. The amendments are proposed to be issued pursuant to the authority contained in Title 35, U.S. Code, sections 6 and 31, and other authority.

All persons who desire to submit written data, views, arguments or suggestions, for consideration in connection with the proposed amendments, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., on or before October 2, 1961. An oral hearing will not be scheduled unless sufficient requests for the same are received.

The texts of the proposed amendments follow:

§1.203. [*Amendment*]

1. Paragraph (a) of § 1.203 is proposed to be amended by cancelling the last sentence and inserting the following sentence in lieu thereof: "Claims in the same language, to form the counts of the interference, must be present or be presented, in each application; except that, in cases where, owing to the nature of the disclosures in the respective applications, it is not possible for all applications to properly include a claim in identical phraseology to define the common invention, an interference may be declared, with the approval of the Commissioner, using as a count representing the interfering subject matter a claim differing from the corresponding claims of one or more of the interfering applications by an immaterial limitation or variation."

§ 1.232 [*Amendment*]

2. Paragraph (a) of § 1.232 is proposed to be amended by cancelling "or if the interference involves a patent, a claim of which has been copied in modified form." and inserting in lieu thereof: "or as to a claim included as a count under the last sentence of § 1.203(a) or the last sentence of § 1.205(a)."

§ 1.233. [*Amendment*]

3. Paragraph (d) of § 1.233 is proposed to be amended to read as follows:

(d) The proposed claims (1) must be indicated to be patentable in the opinion of the moving party in each of the applications involved in the motion and (2) must, unless they stand allowed, be distinguished from the prior art of record or sufficient other reason for their patentability given. Furthermore, (3) the reason why an additional count is necessary must be stated. When more than one count is proposed, the motion (4) must point out wherein they differ materially from each other and (5) must show why each proposed count is necessary to the interference. The proposed claims (6) must also be applied to the disclosure of each application involved in the motion, except as to an application in which the claims already appear and the claims identified as originating therein.

4. Section 1.235 is proposed to be amended to read as follows:

§ 1.235 *Motions relating to burden of proof.*

Any party may bring a motion to shift the burden of proof (a) on the ground that he is entitled to the benefit of the filing date of an earlier domestic or foreign application, or (b) on the ground that an opposing party is not entitled to the benefit of an earlier application of which he has been given the benefit in the declaration. (See § 1.224.)

§ 1.341 [*Amendment*]

5. Paragraph (g) of § 1.341 is proposed to be amended by cancelling "in which he served, on the date he left said division" and inserting in lieu thereof "during his period of service therein."

6. Section 3.47 is proposed to be amended to read as follows:

§ 3.47 *Interference; notice of taking testimony.*

_____ } Interference No. _____
v.
_____

_____, 19____

_____
(Name of opposing attorney)

_____
(Address of opposing attorney)

SIR: You are hereby notified that on _____, _____, 19____, at_____ o'clock in the forenoon at the office of _____, _____ Street, _____, _____, I shall proceed to take testimony on behalf of the party _____ in the above identified interference.

The witnesses to be examined are:

(Name of witnesses)	(Residence of witnesses)
_____	_____
_____	_____

The examination will continue from day to day until completed. You are invited to attend and cross-examine.

_____
(Signature of attorney)

PROOF OF SERVICE

_____, 19____.

I hereby certify that on_____, 19____, I served a copy of the foregoing notice of taking testimony upon _____, the attorney for the party _____, by mailing a copy thereof to him at his address as set out in the notice.

_____
(Signature of attorney)

DAVID L. LADD,
Commissioner of Patents.

Approved:

HICKMAN PRICE, Jr.,
Assistant Secretary of Commerce for Domestic Affairs.

[F.R. Doc. 61-7740; Filed, Aug. 14, 1961; 8:48 a.m.]

Published in 26 F.R. 7550, 7551, Aug. 10, 1961

CORRECTED NOTICE

Punched Cards for Organic Phosphorus Compounds

Sets of punched cards recording the Patent Office analysis of the subject matter of the U.S. Patents pertaining to organic phosphorus compounds in Class 260, subclass 461 may be purchased by the public from the Patent Office.

The punchings in the cards are designed to admit of their mechanical selection by commercially available equipment on the basis of specific or generic categorization of any organic

phosphorus compound disclosed in these patents. A description of the system of punch coding is in Patent Office Research and Development Report No. 18, "Mechanized Searching of Phosphorus Compounds" which is available from the U.S. Department of Commerce, Washington 25, D.C., price 25 cents.

A complete set of 3142 eighty-column cards may be obtained upon order addressed to the Commissioner of Patents, Washington 25, D.C. The price is $25.00. It includes the basic set, such addition and correction cards as may be issued through June 1962, and a copy of R. & D. Report No. 18. Purchasers are invited to submit their suggestions for improvement.

C. A. KALK,
Aug. 17, 1961. *Director of Administration.*

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189,** same, Non-alcoholic maltless beverages; **Reg. No. 238,145,** same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146,** same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and syrups for making such beverages, **filed** June 16, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39/974, *The Coca-Cola Company* v. *Falcone Flavor House.* Consent judgment; trademarks held infringed; injunction granted July 14, 1961.

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 85,539 (ZEISS), C. Zeiss, Lenses, prisms, reflectors, microscopes, projecting apparatus, kinematographs, etc., **filed** July 17, 1952, D.C., S.D.N.Y., Doc. 77/208, *Panatech Corporation* v. *Carl Zeiss, Inc., Harry M. Durning, United States Collector of Customs, New York and James L. McGranery, Attorney General, U.S.A.* Complaint dismissed as to Attorney General Feb. 27, 1953; dismissed against Carl Zeiss, Inc. May 5, 1961; consent judgment against Collector of Customs and staying him from interfering because of recordation by or on behalf of Attorney General of Cert. of Reg. No. 85,539 with importation of plaintiff's merchandise bearing trademark "Zeiss" and directing release of goods imported, etc. July 12, 1961.

Reg. No. 176,690 (PHILIP BERIO AND CO. AND DESIGN), F. Romeo & Co., Inc., Olive oil, **filed** July 24, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c1227, *Societa Anonima Luchese Olii e Vini* v. *August Battaglia Company.* **Same, filed** same, Doc. 61c1228, *Societa Anonima Luchese Olii e Vini* v. *D'Andrea & Sons Italian Foods.*

Reg. No. 203,616 (BETTER HOMES AND GARDENS), Successful Farming Publishing Company, Monthly publication; **Reg. No. 602,407,** same, Meredith Publishing Company, Periodic publication; **Reg. No. 608,350** (BETTER HOMES), Booklet issued periodically; **Reg. No. 626,692** (BETTER HOMES AND GARDENS ETC. AND DESIGN), same, Home planning service, **filed** July 31, 1961, D.C., S.D.N.Y., Doc. 61/2714, *Meredith Publishing Company* v. *Universal Publishing and Distributing Corporation.*

Reg. No. 204,255 (DESIGN OF PLAYING CARD), The United States Playing Card Company, Playing cards; **Reg. No. 578,691** (BICYCLE PLAYING CARDS AND DESIGN), same, **filed** July 28, 1961, D.C., S.D.N.Y., Doc. 61/2689, *The United States Playing Card Company* v. *Standard Packaging Corporation.*

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 252,350 ("SEVEN UP"), The Howdy Company, Carbonated, nonalcoholic, noncereal, maltless beverages sold as soft drinks, and syrups, extracts and flavors used in making same; **Reg. No. 331,345** (7 UP AND DESIGN), same; **Reg. No. 399,995,** same, The Seven Up Company, Carbonated nonalcoholic, noncereal, maltless beverages, sold as soft drinks; **Reg. No. 403,990,** same; **Reg. No. 406,182,** same; **Reg. No. 595,639,** same, The Seven-Up Company, same; **Reg. No. 632,795** ("FRESH UP" WITH 7 UP AND DESIGN), same; **Reg. No. 639,769,** same, Carbonated soft drinks, **filed** Aug. 7, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c1478, *The Seven-Up Company* v. *Green Mill Beverage Co. et al.* Trademark held valid; defendants enjoined Jan. 31, 1961.

Reg. No. 331,345. (See Reg. No. 252,350.)

Reg. No. 399,995. (See Reg. No. 252,350.)

Reg. No. 403,990. (See Reg. No. 252,350.)

Reg. No. 406,182. (See Reg. No. 252,350.)

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 418,001 (LOWERATOR), W. J. Gibbs, doing business as Lowerator Manufacturing Co., Apparatus for holding articles or layers of articles capable of being stacked, **filed** July 25, 1961, D.C., S.D.N.Y., Doc. 61/2610, *American Machine & Foundry Company* v. *Levelator Corporation of America et al.*

Reg. No. 512,057 (MASON-DRI), Sapolin Paints, Inc. (formerly Sapolin Co., Inc.), Ready mixed paint for exterior use and interior use on masonry walls to waterproof or dampproof same, **filed** July 27, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 29/480, *Sapolin Paints, Inc.* v. *Carroll, Ltd. Inc. et al.*

Reg. No. 524,060 (KING KORN), Big Stone Canning Co., Canned sweet corn, whole kernel corn and cream style corn; **Reg. No. 607,735** (KING CORN AND DESIGN), same, Canned vegetables, **filed** June 16, 1958, D.C., N.D. Ill (Chicago), Doc. 58c1039, *Big Stone Canning Co.* v. *King Korn Stamp Co.* By agreement, complaint dismissed with prejudice Mar. 11, 1960.

Reg. No. 548,018 (NATION WIDE NATIONAL VAN LINES INC. AND DESIGN), National Van Lines, Inc., Services relating to the moving of goods; **Reg. No. 563,950** (NATIONAL VAN LINES, INC.), same, Transportation of goods by motor van, **filed** Apr. 15, 1957, D.C., N.D. Ill. (Chicago), Doc. 57c665, *National Van Lines, Inc. v. Alfred E. Dean and Dean Van Lines, Inc.* Injunction denied Mar. 9, 1960. **Appeal, filed** Apr. 6, 1960, C.C.A., 7th Cir., Doc. 13/026, *National Van Lines, Inc.* v. *Dean et al.* Decree of District Court affirmed Apr. 26, 1961.

Reg. No. 563,832 (MERRY MITES BY MERRY HULL AND DESIGN), Merry Hull & Company, Infants' and children's coats, hats, vests, rompers, sweaters, booties, slippers, etc.; **Reg. No. 614,461** (TALL TROUSERS), Gladys W. Geissmann, doing business as Merry Hull, Children's slacks, shorts and overalls; **2,629,875,** G. W. Geissmann, Slide fastener closures for apparel; **2,654,093,** same, Children's garments, **filed** July 31, 1961, D.C., S.D.N.Y., Doc. 61/2710, *Merry Hull & Company* v. *Hi-Line Co., Inc. et al.*

Reg. No. 563,950. (See Reg. No. 548,018.)

Reg. No. 578,691. (See Reg. No. 204,255.)

Reg. No. 595,639. (See Reg. No. 252,350.)

Reg. No. 600,018 (PLAYBOY), HMH Publishing Co., Inc., Monthly magazine; **Reg. No. 643,926** (DESIGN OF RABBIT'S HEAD), same, **filed** July 24, 1961, D.C. Colo. (Denver), Doc. 7209, *HMH Publishing Co., Inc. et al.* v. *Playboy Lounge.*

Reg. No. 603,407. (See Reg. No. 203,616.)

Reg. No. 607,735. (See Reg. No. 524,060.)

Reg. No. 608,350. (See Reg. No. 203,616.)

Reg. No. 614,461. (See Reg. No. 563,832.)

Reg. No. 626,692. (See Reg. No. 203,616.)

Reg. No. 631,388 (LISANNE), Lisanne, Inc., Ladies' and misses' housecoats and robes, **filed** June 26, 1961, D.C., S.D.N.Y., Doc. 61/2264, *Lisanne, Inc.* v. *Lisette Lingerie, Inc. et al.*

Reg. No. 632,795. (See Reg. No. 252,350.)

Reg. No. 639,769. (See Reg. No. 252,350.)

Reg. No. 670,707 (HAYDEN'S AND DESIGN), Hayden's Hollandaise, Inc., Hollandaise and bearnaise sauce, **filed** Sept. 3, 1959, D.C., E.D. Pa. (Philadelphia), Doc. 26/936, *Hayden's Hollandaise, Inc.* v. *Maurie H. Orodenker Advertising Agency et al.* Dismissed by stipulation (notice July 26, 1961). **Same, filed** same, Doc. 24/294, *Hayden's Hollandaise, Inc.* v. *Martin B. Dabrow et al.* Decree as above.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1 — Raw or Partly Prepared Materials

SN 111,625. Societe de la Viscose Suisse, Emmenbrucke, Switzerland. Filed Jan. 10, 1961.

NYLSUISSE

For Synthetic Fibres and Filaments.
First use August 1957; in commerce in or about February 1958.

Class 2 — Receptacles

SN 114,843. Dansk Designs Inc., Great Neck, N.Y. Filed Mar. 3, 1961.

FESTIVAAL

For Wooden Serving Trays.
First use Aug. 23, 1960.

SN 115,825. The Metal Box Company Limited, London, England. Filed Mar. 16, 1961.

DIOFORM

Owner of British Reg. No. 788,333, dated Mar. 10, 1959.
For Cartons and Bags.

SN 116,805. Continental Can Company, Inc., New York, N.Y. Filed Mar. 30, 1961.

CONO-FRESH

Owner of Reg. Nos. 553,791, 650,161, and 651,879.
For Plastic Bags.
First use Feb. 10, 1961.

SN 116,816. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Mar. 30, 1961.

E-Z FREZ

Owner of Reg. Nos. 227,085, 678,900, and others.
For Ice Cream Bags.
First use Mar. 6, 1961.

SN 117,366. Illinois Tool Works, Chicago, Ill. Filed Apr. 7, 1961.

FLAVOR-VUE

For Plastic Containers—Namely, Cups and the Like.
First use Mar. 31, 1961.

SN 117,545. Hy Solomon, Hollywood, Fla. Filed Apr. 10, 1961.

GARB-A-CAN

For Concrete Storage Receptacles for Garbage and Refuse Cans.
First use Feb. 1, 1961.

SN 117,673. Advance Boiler & Tank Co., Milwaukee, Wis. Filed Apr. 12, 1961.

TRAN-O-STAK

For Material Handling Drums Formed of Metal.
First use on or about Aug. 1, 1960.

SN 117,944. Bemis Bro. Bag Company, St. Louis, Mo. Filed Apr. 17, 1961.

DURA-GRIP

Owner of Reg. Nos. 365,057, 662,739, and others.
For Paper Bags.
First use Mar. 29, 1961.

SN 118,903. Puget Sound Casket Company, Tacoma, Wash. Filed Apr. 28, 1961.

FIBERSEAL

For Caskets.
First use July 18, 1959.

SN 118,904. Puget Sound Casket Company, Tacoma, Wash. Filed Apr. 28, 1961.

DURASEAL

For Caskets.
First use July 18, 1959.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 80,089. Goldcrest Handbags, Inc., New York, N.Y. Filed Aug. 24, 1959.

CREST-HYDE

For Handbags.
First use July 30, 1959.

SN 116,543. The May Department Stores Company, New York, N.Y. Filed Mar. 27, 1961.

FLITECREST

For Leather and/or Vinyl Plastic and/or Fabric Covered Vinyl Plastic Hand Luggage, Suitcases, Traveling Bags, Briefcases and Attaché Cases; Fiber Packing Trunks.
First use Nov. 26, 1960.

Class 5 — Adhesives

SN 116,436. Spray A Tape, Inc., Boston, Mass. Filed Mar. 24, 1961.

SPRAY A TAPE

For Aerosol Adhesives for Home and Office Use.
First use Jan. 12, 1961.

SN 117,637. International Minerals & Chemical Corporation, Skokie, Ill. Filed Apr. 11, 1961.

For Adhesives for Foundry Cores and Molds and Other Refractories.
First use March 1961.

Class 6—Chemicals and Chemical Compositions

SN 73,948. Milwhite Mud Sales Company, Houston, Tex. Filed May 18, 1959.

LUBRI-FILM

For Additive Composition for Rotary Drilling Muds for Providing Extreme Pressure Lubrication and Corrosion Protection.

First use on or about Feb. 1, 1959.

SN 80,469. Jacques Wolf & Co., Newark, N.J. Filed Aug. 28, 1959.

CANTSLIP

For Anti-Slip Textile Finishing Compositions Used in the Finishing of Rayon and Mixed Fibers.

First use June 1939.

SN 82,664. Gould-National Batteries, Inc., St. Paul, Minn. Filed S.R. Oct. 5, 1959; Am. P.R. June 21, 1961.

The words "Acid-Pak" are disclaimed apart from the mark as shown.

For Electrolyte for Filling Dry Charged Batteries.

First use Aug. 5, 1958.

SN 89,501. Chem Lab Products, Incorporated, Norwalk, Calif. Filed Jan. 22, 1960.

The drawing is lined for green, but this is not a limitation on the generality of the mark.

For Compositions for Chlorinating Swimming Pools, and for Laundry Bleaches.

First use May 1, 1959.

SN 103,871. Ransohoff Company, Hamilton, Ohio. Filed Sept. 2, 1960.

RANSOHOFF

For Corrosion Inhibitors, Acid Neutralizers, Hydrocarbon Rust Inhibitors, and Mixtures Containing the Foregoing for Treating Metals.

First use Aug. 21, 1959.

SN 103,873. Ransohoff Company, Hamilton, Ohio. Filed Sept. 2, 1960.

For Corrosion Inhibitors, Acid Neutralizers, Hydrocarbon Rust Inhibitors, and Mixtures Containing the Foregoing for Treating Metals.

First use Aug. 21, 1959.

SN 110,483. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed Dec. 19, 1960.

The words "Specialties Phytosanitaires" are disclaimed apart from the mark. Priority claimed under Sec. 44(d) on French Reg. No. 490,952, dated Oct. 6, 1960; Natl. Inst. No. 151,786.

For Chemical Products Used for Agriculture, Horticulture and Forestry—Namely, Herbicides and Preparations for Destroying Noxious Animals.

SN 111,246. Titekote Corporation, Wilmington, Del. Filed Jan. 3, 1961.

TITEKOTE

For Urethane Leather Treating Compound for Improving Abrasion and Scuff Resistance Properties of the Leather.

First use Dec. 5, 1960.

SN 112,036. Hal J. Ellison, d.b.a. Silaco Chemical Company, Chicago, Ill. Filed Jan. 18, 1961.

SILACIDE

For Chemical Composition for Use as a Slimicide in Making Paper.

First use on or about Feb. 10, 1960.

SN 114,241. Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany. Filed Feb. 23, 1961.

LANCET

Owner of German Reg. No. 740,785, dated Oct. 4, 1960.

For Chemical Products for Industrial Use—Namely, Chemicals for the Production of Etched Cliches From Suited Metals.

SN 114,841. Crompton & Knowles Corporation, Worcester, Mass. Filed Mar. 3, 1961.

NYLANTHRENE

Owner of Reg. No. 600,605.

For Dyes.

First use on or about Feb. 4, 1954.

SN 114,870. McKay Chemical Company Incorporated, Brooklyn, N.Y. Filed Mar. 3, 1961.

JACK FROST

Owner of Reg. No. 322,141.

For Chemical Compound for Etching Glass.

First use Sept. 1, 1930.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 100,339. A. R. Albert Corporation, Cleveland Heights, Ohio. Filed July 6, 1960.

MR. "A" JR.

For Ash Tray.
First use May 12, 1960.

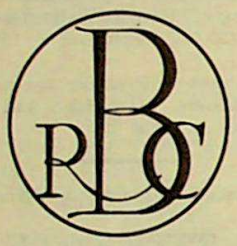
SN 100,342. A. R. Albert Corporation, Cleveland Heights, Ohio. Filed July 6, 1960.

MR. "A"

For Ash Tray.
First use May 12, 1960.

Class 11 — Inks and Inking Materials

SN 116,624. The Buckeye Ribbon & Carbon Co., Cleveland, Ohio. Filed Mar. 28, 1961.



For Ink, Inked Ribbons, Carbon Paper, and Duplicating Fluid for Use in Spirit Duplicating Operations.
First use May 1, 1951.

SN 116,635. Gotham Ink & Color Co., Inc., Long Island City, N.Y. Filed Mar. 28, 1961.

ETHALIN

For Flexographic Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Flexographic Application; and Varnishes, Vehicles and Thinners for Flexographic Inks and Flexographic Coatings.
First use Dec. 18, 1950.

SN 116,636. Gotham Ink & Color Co., Inc., Long Island City, N.Y. Filed Mar. 28, 1961.

FLEXALIN

For Flexographic Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Flexographic Application; and Varnishes, Vehicles and Thinners for Flexographic Inks and Flexographic Coatings.
First use Apr. 22, 1960.

SN 116,637. Gotham Ink & Color Co., Inc., Long Island City, N.Y. Filed Mar. 28, 1961.

VINYLEX

For Flexographic and Rotogravure Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Flexographic and Rotogravure Application; and Varnishes, Vehicles and Thinners for Flexographic and Rotogravure Inks and Flexographic and Rotogravure Coatings.
First use Apr. 10, 1959.

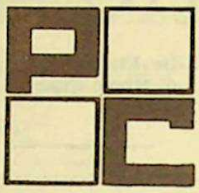
SN 116,638. Gotham Ink & Color Co., Inc., Long Island City, N.Y. Filed Mar. 28, 1961.

GOTHALIN

For Flexographic Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Flexographic Application; and Varnishes, Vehicles and Thinners for Flexographic Inks and Flexographic Coatings.
First use May 31, 1945.

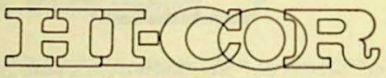
Class 12 — Construction Materials

SN 89,869. Porce-Cote Research & Development Corp., Uniondale, N.Y., by change of name from Porce Cote Corp., Uniondale, N.Y. Filed Jan. 28, 1960.



For Porcelain Repair and Refinishing Units Including Liquid Compositions Adapted To Be Applied to Damaged Areas on Sinks, Tubs, Basins, Commodes, and Other Articles of Porcelain.
First use January 1955.

SN 105,532. Moncrief-Lenoir Manufacturing Company, Houston, Tex. Filed Sept. 30, 1960.



For Corrugated Metal Roofing and Siding.
First use June 1, 1959, on corrugated metal roofing.

SN 109,302. Cleveland Wash Tray Mfg. Co. Inc., Cleveland, Ohio. Filed Nov. 30, 1960.

TERRASTONE

For Shower Bases.
First use May 3, 1960.

SN 109,971. E. J. Lavino and Company, Philadelphia, Pa. Filed Dec. 9, 1960.

K-KN

Owner of Reg. No. 248,118.
For Plastic Chrome Ore Composition for Use for Furnace Construction and for Repair.
First use Mar. 20, 1958.

SN 112,345. John E. Wool Lumber Company, Inc., Norfolk, Va. Filed Jan. 23, 1961.

WOLCO

For Lumber and Ready-to-Hang Door Units.
First use January 1957.

SN 112,833. Don Chemical Company, Inc., Long Island City, N.Y. Filed Jan. 31, 1961.

DON-F

For Floor and Wall Surfacing Material Having an Epoxy Resin Base.
First use Feb. 21, 1956.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 95,753. Nibco Inc., Elkhart, Ind. Filed Apr. 25, 1960. Owner of Reg. No. 675,437.

HUSKY

For Pipe Fittings Including Valves.
First use Jan. 15, 1960.

SN 101,355. Tomlinson Industries, Inc., Cleveland, Ohio. Filed July 22, 1960.

THE HEART OF YOUR URN

For Valve-Type Faucet Dispensers for Liquid Food Products—Namely, Coffee, Tea, Milk and Juices.
First use May 1958.

SN 114,943. Electricam Corporation, Grand Rapids, Mich. Filed Mar. 6, 1961.

ADJUSTA-HOOK

For Drapery Hooks.
First use Dec. 31, 1960.

SN 115,005. Elias N. Seligson, Elmont, N.Y. Filed Mar. 6, 1961.

POLY-FIT

For Fittings Used in Plumbing and Sprinkler Piping and Insert Type Fittings To Be Used on Polyethylene Plastic Tubing With Clamps.
First use Mar. 15, 1960.

SN 115,025. Wisconsin Wire Works, Appleton, Wis. Filed Mar. 6, 1961.

LEV-L-WEVE

For Fourdrinier Wire.
First use Dec. 29, 1960.

SN 115,412. Albright Mfg. Co. Inc., Chicago, Ill. Filed Mar. 13, 1961.

ZIP

For Conveyor and Transmission Belt Fasteners.
First use Feb. 6, 1961.

SN 115,511. Nixdorff-Krein Manufacturing Company, St. Louis, Mo. Filed Mar. 13, 1961.

NK

Owner of Reg. Nos. 509,214 and 511,547.
For Chains, Including Anti-Skid Chains for Tires, Anchorage Chains, Tow Chains, Log Chains, Chains for Tethering Animals, Hoist Chains, and General Chains.
First use Jan. 2, 1961.

Class 14 — Metals and Metal Castings and Forgings

SN 78,518. Stanwood Corporation, Chicago, Ill. Filed July 27, 1959.

STANALOY

For Ferrous and Non-Ferrous Metal Alloys Sold in Sheet, Plate, Bar and Other Forms, and Also for Such Alloys Used for Making Industrial Heat Treating, Pickeling and Plating Baskets, Trays, Pots, Carburizing Boxes and Furnace Parts.
First use Feb. 2, 1959.

SN 111,674. The Lincoln Electric Company, Cleveland, Ohio. Filed Jan. 11, 1961.

PLANEWELD

Owner of Reg. No. 382,719.
For Metallic Welding Electrodes.
First use July 28, 1939.

SN 111,736. K. C. Glader Company, Niles, Ill. Filed Jan. 12, 1961.

KEN-AIR

For Low Temperature, Air Hardening Tool Steel.
First use Aug. 1, 1960.

Class 15 — Oils and Greases

SN 109,677. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

PASOCUTT

Owner of Reg. Nos. 653,295, 698,430, and others.
For Cutting Oils.
First use July 23, 1960.

SN 109,679. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

PASOL

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Lubricating Oils.
First use May 21, 1960.

SN 109,680. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

ELSOL

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Cutting Oils.
First use July 18, 1960.

SN 109,681. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

PASOMATIC

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Industrial Oils—Namely, Lubricating and Power Transmission Oils.
First use June 1, 1960.

SN 109,682. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

ELOX

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Industrial Oils—Namely, Lubricating and Power Transmission Oils.
First use July 23, 1960.

SN 109,683. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

PASOVEL

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Lubricating Oils.
First use June 1, 1960.

SN 114,070. Wynn Oil Company, Azusa, Calif. Filed Feb. 20, 1961.

FRICTION PROOFING

Owner of Reg. Nos. 588,163 and 589,942.
For Packaged Chemical Products To Be Added to Lubricating Oils, Greases, and Internal Combustion Engine Fuels.
First use on about Feb. 26, 1945.

SN 115,620. Penn-West Petroleum Company, Inc., Orlando, Fla. Filed Mar. 14, 1961.

PENN-WEST

For Gasoline, Lubricating Oils and Greases.
First use Jan. 28, 1961.

SN 116,065. Petrolite Corporation, St. Louis, Mo. Filed Mar. 20, 1961.

BOTOL

For Chemicals Added to Hydrocarbons, Such as Petroleum, To Prevent the Formation of Emulsions With Water Present Therein, Particularly When Said Hydrocarbons Are Subjected to Turbulence, Such as Occurs During Transportation in Tankers, Pipelines, Etc.
First use Mar. 3, 1961.

SN 116,769. Universal Motor Oils Co., Inc., Wichita, Kans. Filed Mar. 29, 1961.

LO-ICY

For Lubricating Oil.
First use October 1932.

SN 117,486. Gulf Oil Corporation, Pittsburgh, Pa. Filed Apr. 10, 1961.

GULF

The drawing is lined for orange and blue. Owner of Reg. No. 621,650.
For Petroleum and Its Products—Namely, Fuel Oil, Gasoline, Kerosene, Naphtha, Lubricating Oils, Motor Oils, Technical and Industrial Oils, Petroleum Waxes, and Lubricating Greases.
First use at least as early as 1933 on gasoline.

Class 16—Protective and Decorative Coatings

SN 93,280. Continental Coatings Corporation, New York, N.Y. Filed Mar. 21, 1960.

ROCKCOAT

For Coal Tar Based Anti-Corrosive for Use Under Severe Conditions of Abrasion.
First use Aug. 11, 1941.

SN 93,281. Continental Coatings Corporation, New York, N.Y. Filed Mar. 21, 1960.

STEELSAVER

For Coal Tar Based Anti-Corrosive for Marine Use.
First use Aug. 11, 1941.

SN 97,306. Gerald Gross, d.b.a. Transparent Glass Coatings Co., Los Angeles, Calif. Filed May 17, 1960.

SUN STOP

For Resin Glass Coating Material.
First use Feb. 1, 1954.

SN 103,292. The Patterson-Sargent Company, Cleveland, Ohio. Filed Aug. 23, 1960.

LUX-COTE

For Paints.
First use June 24, 1960.

SN 108,312. Gilman Paint and Varnish Company, Chattanooga, Tenn. Filed Nov. 14, 1960.

RUB-R-LITH

For Exterior Masonry Paint (Acrylic Base).
First use May 1956.

SN 110,870. Midland Laboratories, Dubuque, Iowa. Filed Dec. 27, 1960.

MID-DRY

For Protective Floor Coating for Institutional and Industrial Use.
First use on or about Aug. 24, 1960.

SN 110,897. Specialized Coatings, Inc., Passaic, N.J. Filed Dec. 27, 1960.

POLY MICA

For Varnishes.
First use Oct. 25, 1960.

SN 119,862. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 12, 1961.

NAPHTHANIL

Owner of Reg. No. 277,939.
For Paint Pigments.
First use Apr. 17, 1961.

SN 120,071. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed May 16, 1961.

AROTHIX

For Thixotrophic Vehicle for Wall Paints.
First use Jan. 26, 1959.

SN 120,222. Pierpont Paint and Wall Paper Corp., New York, N.Y. Filed May 17, 1961.

Du-More

For Paints.
First use Nov. 15, 1960.

SN 120,538. Kurfees Paint Co., Louisville, Ky. Filed May 22, 1961.

FABRIMATCH

For Liquid Interior Top Coat Paints and Colorants for Tinting Said Paints.
First use Apr. 25, 1961.

SN 120,762. Sears, Roebuck and Co., Chicago, Ill. Filed May 24, 1961.

DECO-SPRAY

For Paint, Enamel, and Lacquer.
First use on or about Dec. 23, 1959.

SN 121,376. Foy-Johnston, Inc., Cincinnati, Ohio. Filed June 5, 1961.

CERTINT

For Ready Mixed Paints and Paint Enamels for Exterior and Interior Surfaces.
First use Feb. 23, 1961.

SN 121,728. Guardian Chemical Corporation, Long Island City, N.Y. Filed June 9, 1961.

SURTISEAL

For Coating Material for Protecting, Rendering Water-Repellent and Brightening Masonry and Similar Surfaces.
First use May 16, 1961.

SN 121,976. Mary Carter Paint Company, Tampa, Fla. Filed June 14, 1961.

ROL-EZE

For Paint.
First use Mar. 14, 1961.

Class 17—Tobacco Products

SN 115,827. Philip Morris Incorporated, New York, N.Y. Filed Mar. 16, 1961.

DOLPHIN

For Cigarettes.
First use Mar. 13, 1961.

SN 115,830. Philip Morris Incorporated, New York, N.Y. Filed Mar. 16, 1961.

BON HOMME

For Cigarettes.
First use Mar. 13, 1961.

SN 115,834. Philip Morris Incorporated, New York, N.Y. Filed Mar. 16, 1961.

ENSIGN

For Cigarettes.
First use Mar. 13, 1961.

SN 115,836. Philip Morris Incorporated, New York, N.Y. Filed Mar. 16, 1961.

STATESMAN

For Cigarettes.
First use Mar. 13, 1961.

Class 18—Medicines and Pharmaceutical Preparations

SN 91,469. Jerry C. Totzka, d.b.a. Generic Drug Co., Detroit, Mich. Filed Feb. 23, 1960.

GENERIC A-CAPS

The term "A-Caps" is disclaimed apart from the mark as shown.
For Vitamin Capsules.
First use on or about Feb. 6, 1960.

SN 96,017. Merck & Co., Inc., Rahway, N.J. Filed Apr. 28, 1960.

GRO-AID

For Hematinic Preparation for Veterinary Use.
First use Apr. 12, 1960.

SN 96,619. Humble Oil & Refining Company, Houston, Tex., assignee of Penola Oil Company, New York, N.Y. Filed May 6, 1960.

ENCO

For Pharmaceutical Grade Petrolatum.
First use Sept. 23, 1959.

SN 96,678. Contactisol Inc., Lindenhurst, N.Y. Filed May 9, 1960.

VAZIN

For Ophthalmic Medicines, Particularly an Astringent Decongestant Emollient.
First use Jan. 4, 1960.

SN 101,532. Nicholas International Limited, Toronto, Ontario, Canada. Filed July 22, 1960.

HOPULONE

For Antibacterial-Analgesic Ointment.
First use Mar. 29, 1960; in commerce Mar. 29, 1960.

SN 104,218. Abbott Laboratories, North Chicago, Ill. Filed Sept. 12, 1960.

DULCET
ASPIRIN

No claim is made to the word "Aspirin" apart from the mark as shown. Owner of Reg. No. 500,527.
For Aspirin Aluminum in Sweetened Tablet Form for Children.
First use Sept. 7, 1960.

SN 108,196. National Remedy Products Company, Inc., Springfield, Mo. Filed Nov. 10, 1960.

Naremco

For Medicinal, Vitamin and Mineral Preparations for Poultry and Animal Use.
First use Nov. 11, 1954.

SN 115,289. American Home Products Corporation, d.b.a. Wyeth Laboratories, Philadelphia, Pa. Filed Mar. 10, 1961.

ADVIRAX

For Vaccine Preparation.
First use Mar. 1, 1961.

SN 118,506. Sterling Drug Inc., New York, N.Y. Filed Apr. 24, 1961.

PEDIACOF

For Cough Syrup.
First use Apr. 10, 1961.

SN 118,763. Breon Laboratories Inc., New York, N.Y. Filed Apr. 27, 1961.

FORTIZYME

Owner of Reg. No. 675,499.
For Anti-Inflammatory Preparation.
First use Mar. 15, 1961.

SN 119,177. C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany. Filed May 3, 1961.

NOTANDRON

Owner of German Reg. No. 634,527, dated Feb. 23, 1953.
For Medicines and Pharmaceutical Preparations—Namely, a Hormone Preparation.

SN 119,219. McNeil Laboratories, Incorporated, Philadelphia, Pa. Filed May 3, 1961.

PARAFON-FORTE

Owner of Reg. Nos. 668,920 and 681,397.
For Muscle Relaxant Analgesic.
First use Mar. 22, 1961.

SN 119,642. Schering Corporation, Bloomfield, N.J. Filed May 9, 1961.

UTONEX

For Antibacterial Preparation for Veterinarian Use.
First use Dec. 29, 1960.

SN 119,805. Storck Pharmaceuticals, Inc., St. Louis, Mo. Filed May 11, 1961.

EMESERT

For Rectal Suppository for Vomiting and Nausea.
First use Oct. 15, 1958.

SN 119,889. The Purdue Frederick Company, New York, N.Y. Filed May 12, 1961.

DIGOXALINE

For Preparation for the Treatment of Diseases of the Heart.
First use May 5, 1961.

Class 19—Vehicles

SN 97,264. Nelson A. Taylor Co., Inc., Gloversville, N.Y. Filed May 16, 1960.

Taylor MADE

For Boat Windshields, Convertible Boat Tops, Boat Covers, Mooring Buoys and Floats, Boarding Ladders for Boats, Rear-View Mirrors, Windshield Wipers, and Sun Visors.
First use 1908.

SN 108,378. Pullman Incorporated, Chicago, Ill. Filed Nov. 14, 1960.

HYDROFRAME-60

For Railway Freight Vehicles and Frames on Railway Freight Vehicles.
First use Apr. 29, 1960.

SN 110,852. Hudson Foam Latex Products, Inc., Edgewater, N.J. Filed Dec. 27, 1960.

CUSH-N-FOAM

Owner of Reg. No. 591,459.
For Rubber and Plastic Foam, Formed or Cut to Size, for Vehicular Cushioning, Headliners and Padding.
First use May 12, 1952.

SN 110,982. Dana Corporation, Toledo, Ohio. Filed Dec. 29, 1960.

Rollaire

For Resilient Cradle Assemblies as Used on Boat Trailers.
First use June 8, 1960.

SN 111,072. Dana Corporation, Toledo, Ohio. Filed Dec. 30, 1960.

Adjust-o-matic

For Adjustable Cradle Assemblies as Used on Boat Trailers.
First use June 8, 1960.

SN 113,677. The American Thermos Products Company, Norwich, Conn. Filed Feb. 15, 1961.

THERMOS

Owner of Reg. Nos. 67,002, 700,748, and others.
For Car Vacuum Bottle Holders.
First use May 16, 1958.

SN 115,473. Hunter Boat Corporation, Suisun City, Calif. Filed Mar. 13, 1961.

Hunter

For Boats.
First use about 1949; 1887 as to the mark in a different display.

SN 115,510. Nixdorff-Krein Manufacturing Company, St. Louis, Mo. Filed Mar. 13, 1961.

NK

Owner of Reg. Nos. 509,214 and 511,547.
For Wagon and Vehicular Hardware.
First use Jan. 2, 1961.

SN 117,481. George W. Gerlach, Jr., Lancaster, Pa. Filed Apr. 10, 1961.

LITTLE GOLD CUPPERS

For Boats.
First use Jan. 26, 1961.

SN 117,519. Multi-Car Corporation, Detroit, Mich. Filed Apr. 10, 1961.

MULTI-CAR

For Railway Vehicles Used for Carrying Railway Freight and Particularly Automotive Vehicles.
First use on or about Feb. 15, 1961.

Class 21—Electrical Apparatus, Machines, and Supplies

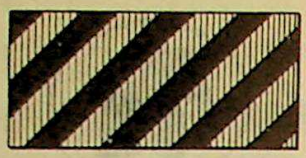
SN 91,939. Guaranteed Parts Company, Inc., Seneca Falls, N.Y. Filed Mar. 1, 1960.

GP

4 Star

Owner of Reg. No. 386,409.
For Ignition Coils, Distributor Parts, Condensers, Generator Cutouts, Voltage Regulators, Electric Automotive Ignition, Starting, and Lighting Equipment—Namely, Motor and Generator Brushes, Bushings for Starters and Generators, Contact Arms and Screws, Condensers, Distributor Covers, Distributor Leads, Distributor Rotors, Coils, Generator Cutouts, Voltage Regulators, Relays, Switches for Auto and Radio, Starter and Dimmer Switches, Stop Light Switches, Starter Springs, and Starter Bolts and Washers.
First use Apr. 14, 1958.

SN 98,329. The Antenna Specialists Company, Cleveland, Ohio. Filed June 3, 1960.



The drawing is lined for red.
For Antennas.
First use on or about Apr. 1, 1960.

SN 99,680. Teletray Electronic Systems, Inc., Silver Spring, Md. Filed June 24, 1960.

DINE-A-PHONE

For Electronic Ordering Systems for Food and Drink Service Establishments Having a Plurality of Separate Food and Drink Service Stations, Comprising a Telephone at Each Station and a Central Exchange to Which Each Telephone Is Connected for Centralized Control of Ordering and Service to the Patrons of the Establishment.
First use June 5, 1959.

SN 102,288. H. Von Wichmann K.G., Hamburg, Germany. Filed Aug. 8, 1960.

AUTOREX

Owner of German Reg. No. 559,666, dated June 21, 1943; and U.S. Reg. No. 625,743.
For Electrical System Parts and Accessories for Automotive Vehicles, Tractors and Bicycles.

SN 108,830. Siemens & Halske Aktiengesellschaft, Munich, Germany. Filed Nov. 21, 1960.

Owner of German Reg. Nos. 35,800, dated Feb. 2, 1899; 132,933, dated Aug. 3, 1910; 337,261, dated Aug. 3, 1925.
For Apparatus, Equipment and Accessories for Electric Power Generation, Distribution and Consumption, Comprising: (1) Generators and Motors for Direct Current and Alternating Current; (2) Transformers, Rectifiers, Converters for Translating Direct Current to Alternating Current; (3) Resistors, Control Thermostats, Potentiometers, Capacitors, Reactor Coils for Electric Power Current, Switches, Circuit Breakers, Motor Starters, Control Panels, Switch Panels, Contactors, Electromagnets; (4) Electrical Illumination Equipment, Comprising Incandescent, Fluorescent, Arc and Mercury-Arc Lamps; Flood Lights, Theater Stage Lighting and Control Equipment; and Accessories—Namely, Lamp Sockets, Lamp Fixtures, Arc-Lamp Carbons, Flood Lights, Reflectors, Lamp-Mounting Accessories; (5) Electric Batteries, Accumulator Batteries, Battery-Cell Switching Devices; (6) Electric Drives for Machines, Electric Propulsion Drives for Road and Rail Vehicles, Locomotives, Boats and Other Conveyances; Electric Ignition Devices; Electric Drills; (7) Wiring and Line Material, Including Junction Boxes; Terminals; Conductor Parts and Mounting Parts for Cables and Overhead Lines, Electric Railways, Overhead Trolley Lines, Underground Lines, Masts for Electric Lines; Tubularly Enclosed Electric Wires and Cables; Outlets, Plug Contacts and Other Accessories for Wiring and Installation Purposes; (8) Electric Insulating Material and Insulating Devices, Impregnated Insulating Web Material for Electrical Purposes; (9) Electric Fuses, Lightning Arresters, Overload Protectors; (10) Apparatus for Electric Heating, Including Hot Plates, Electric Ranges, Electric Cooking Devices, Electric Soldering Irons, Electric Heaters, Apparatus and Devices for Electric Production of Steel and for Production of Metal From Ore; Induction Heating Devices; (11) Electric Hoist, Crane, and Elevator Drives and Controls Therefor; Electric Devices for Controlling Pneumatic and Hydraulic Power Transmission Plants and for Controlling Motors, Pumps and Compressors for Fluid Systems; (12) Electricity Vending Apparatus; (13) Electrically Driven Household Appliances, Fans, Electric Clocks; and (14) Components and Parts of the Electrical Products Described Above Under (1) to (13).

SN 108,834. Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. Filed Nov. 21, 1960.

Owner of German Reg. Nos. 72,277, dated Sept. 20, 1904; 132,669, dated July 26, 1910; and 326,846, dated Jan. 13, 1925.
For (1) Electric Apparatus and Devices for Controlling and Regulating Electric Current, Voltage, Power, Temperature, Pressure and Other Conditions; Electric Apparatus for Transmitting and Receiving Signals; Direct-Current to Alternating-Current Converters; Electric Drives for Machines, Electric Propulsion Drives for Road and Rail Vehicles, Locomotives, Boats and Other Conveyances; (2) Wiring and Line Material, Including Junction Boxes; Terminals; Conductor Parts and Mounting Parts for Cables and Overhead Lines, Electric Railways, Overhead Trolley Lines, Underground Lines, Masts for Electric Lines; Tubularly Enclosed Electric Wires and Cables; Outlets, Plug Contacts and Other Wiring Accessories; (3) Electric Hoist, Crane and Elevator Drives and Controls Therefor; Electric Devices for Controlling Pneumatic and Hydraulic Power Transmission Plants and for Controlling Motors, Pumps and Compressors for Fluid; (4) Electricity Vending Apparatus, Electricity Meters, Watt-Hour Meters, Ampere-Hour Meters, Electric Timing Switches, Electric Clocks; Electric Photo-Duplicating Apparatus; Electric Projection Apparatus; (5) Electric Bleaching Apparatus, Ozone Producing Apparatus, Induction Melting Furnaces, Electrolytic Apparatus for Producing Hydrogen and Oxygen; Electro-Metallurgical Refining Apparatus; X-Ray Apparatus, Fluorescent Screens for X-Ray Apparatus; Electric Ignition Equipment for Internal Combustion Engines; Electric Drying and Ventilating Apparatus; and (6) Components and Parts of the Electrical Products Described Above Under (1) to (5).

SN 113,274. ESC Electronics Corporation, Palisades Park, N.J. Filed Feb. 8, 1961.

Owner of Reg. No. 624,891.
For Filters, Transformers, Shift Registers, Multi-Vibrators and Oscillators, Encapsulated Assemblies of Networks.
First use Apr. 1, 1959.

Class 22 — Games, Toys, and Sporting Goods

SN 102,282. W. J. Voit Rubber Corp., Los Angeles, Calif. Filed Aug. 8, 1960.

SNUGPACK

For Back Packs Used in Connection With the Self-Contained Underwater Breathing Apparatus Known as Scuba.
First use February 1960.

SN 103,023. Richard R. Jeffrey, New Veron, N.J. Filed Aug. 19, 1960.

MANIPULATION

For Equipment Sold as a Unit for Playing a Board Game.
First use July 30, 1960.

SN 113,230. Louis Marx & Company, Inc., New York, N.Y. Filed Feb. 7, 1961.

MISS MARLENE

For Dolls and Doll Dresses.
First use Jan. 17, 1961.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 96,184. Bergman Tool Mfg. Co., Inc., Buffalo, N.Y. Filed May 2, 1960.

POWER-CUT

For Tinners' Snips.
First use Apr. 30, 1954.

SN 100,945. The Staset Company, Inc., West Orange, N.J. Filed July 15, 1960.

TURN-A-TOOL

For Diamond Tipped Tools.
First use May 24, 1960.

SN 101,141. Union Tractor Inc., Jacksonville, Fla. Filed July 19, 1960.

UNION TRACTOR

Owner of Reg. No. 708,377.
For Tractor Parts.
First use Apr. 12, 1960.

SN 101,978. Robert G. Raque, Louisville, Ky. Filed Aug. 3, 1960.

SLIDEWALK

For Conveyors for Transporting People.
First use Feb. 12, 1960.

SN 102,011. Emsco Screen Pipe Company of Texas, Houston, Tex. Filed Aug. 4, 1960.

EMSCO

For Mufflers.
First use on or about May 6, 1960.

SN 102,287. H. Von Wichmann K.G., Hamburg, Germany. Filed Aug. 8, 1960.

AUTOREX

Owner of German Reg. No. 559,666, dated June 21, 1943; and U.S. Reg. No. 625,743.
For Internal Combustion Engines and Parts for Automotive Vehicles, Tractors and Internal Combustion Engines, Grinding, Boring and Milling Machines, Hydraulic Presses, Riveting Machines, Lifts and Hoists, Tire Vulcanizing and Capping Equipment, Grease Guns, and Tools for the Repair and Maintenance of Motor Vehicles and Tractors.

SN 102,879. A. C. Weber & Co., Inc., Chicago, Ill. Filed Aug. 17, 1960.

Homemaker

Applicant's wholly owned subsidiary is the owner of Reg. No. 628,210.
For Hand Type Knitting Machines and Parts Thereof.
First use June 17, 1960.

SN 102,928. Leesona Corporation, Cranston, R.I. Filed Aug. 18, 1960.

LEESONA

Owner of Reg. No. 138,885.
For Textile Machinery and Parts Thereof, and Machinery for Winding Electrical Coils and Parts Thereof.
First use Apr. 20, 1960, on textile machinery.

SN 104,683. E. W. Bliss Company, Canton, Ohio. Filed Sept. 19, 1960.

MIDLAND SUPERALLOY SPECIAL

No claim is made to the term "Superalloy Special" apart from the mark as shown.
For Cast Steel Rolls Employed in Mills for the Rolling of Steel, Such as Cold Mill Backing-Up Rolls.
First use in or about October 1957.

SN 104,684. E. W. Bliss Company, Canton, Ohio. Filed Sept. 19, 1960.

MIDLAND SUPERALLOY

No claim is made to the term "Superalloy" apart from the mark as shown.
For Cast Steel Rolls Employed in Mills for the Rolling of Steel, Such as Roughing Rolls, Intermediate Rolls, Top, Middle, and Bottom Rolls, Cold Break-Down Rolls, and Floor Plate Finishing Rolls.
First use on or about Nov. 20, 1947.

SN 106,833. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Oct. 20, 1960.

MIDGET-AIR

For Fluid Pressure Operated Cylinders.
First use Sept. 30, 1960.

SN 107,547. E. W. Bliss Company, Canton, Ohio. Filed Nov. 1, 1960.

MIDLAND SUPERMETAL

No claim is made to the term "Supermetal" apart from the mark as shown.

For Roughing Rolls, Intermediate Rolls, and Finishing Rolls Employed in Structural Mills, Merchant Mills, and Billet Bar Mills.

First use in or about May 1947.

SN 110,737. The Challenge Machinery Company, Grand Haven, Mich. Filed Dec. 23, 1960.

CHAMPION

For Paper Cutting Machines and Particularly Power-Operated Paper Cutters for Cutting Stacks of Paper Sheets.

First use on or before Nov. 21, 1960.

SN 111,849. Bethlehem Steel Company, Bethlehem, Pa. Filed Jan. 16, 1961.

BETHCO-DRAWN

Owner of Reg. Nos. 384,939, 578,870, and 585,737.

For Steel Wire Strand Used for Sawing Stone and Similar Materials.

First use Oct. 17, 1960.

SN 112,261. William C. N. Hopkins, d.b.a. American Metal Products Company and American Metal International Co., Portland, Oreg. Filed Jan. 23, 1961.

HOPKINS

For Mufflers, Exhaust Systems, and Parts Thereof.

First use in 1947.

SN 113,935. Manufacturers Supplies Company, St. Louis, Mo. Filed Feb. 17, 1961.

Z

Owner of Reg. No. 657,112.

For Machines for Skiving Leather and Leather-Like Material, and Parts Therefor.

First use 1934.

SN 114,930. Club Razor Blade Mfg. Company, Newark, N.J. Filed Mar. 6, 1961.

GOLDTONE

Owner of Reg. No. 385,718.

For Razor Blades.

First use Dec. 15, 1939.

SN 115,215. H. Brazier Limited, Hertford, England. Filed Mar. 9, 1961.

TENEMAX

Owner of British Reg. No. 771,383, dated Nov. 20, 1957.

For Machines for Grading Material on the Basis of Size, and Screens Being Parts of Such Machines.

SN 115,323. Fisher & Ludlow Limited, Birmingham, England. Filed Mar. 10, 1961.

FLOWLINK

Owner of British Reg. No. 710,066, dated Aug. 22, 1952.

For Conveyors (Machines) and Component Parts Thereof.

SN 116,703. Cella Machinery, Inc., New York, N.Y. Filed Mar. 29, 1961.

C-PAK

For Automatic Milk Bottle and Milk Carton Casers, Case Stacking and Unstacking Machines, and Apparatus for Transferring Milk Bottles and Cartons From One Conveyor to Another.

First use on or about Jan. 19, 1955.

SN 116,800. John Burton Machine Corporation, Concord, Calif. Filed Mar. 30, 1961.

CELLUBANDER

For Machines for Applying Bands to Container Closures.

First use Oct. 31, 1957.

SN 116,815. Gilson Bros. Co., Plymouth, Wis. Filed Mar. 30, 1961.

HOLIDAY

For Garden Tillers, Garden Tractors, Compost Grinders, Concrete Mixers, Lawn Mowers, and Parts and Accessories Therefor.

First use Nov. 30, 1960, on garden tillers.

SN 117,039. Rudolph Peck, d.b.a. Peck Clamp Tool Company, New York, N.Y. Filed Apr. 3, 1961.

SPAT-FREE

For Clamps To Be Used as Tools for Holding Work Pieces and the Like.

First use Feb. 8, 1961.

Class 25—Locks and Safes

SN 114,591. Bartline Industries, New York, N.Y. Filed Feb. 28, 1961.

PORT A LOCK

For Door Locks.

First use May 23, 1960.

Class 26—Measuring and Scientific Appliances

SN 103,785. Heraeus Quarzschmelze G.m.b.H., Hanau am Main, Germany. Filed Sept. 1, 1960.

SUPRASIL

For Optical Articles, Such as Prisms, Lenses, Plates, Mirrors, Rods and Ingots of Optical Material and Transparent or Translucent Laboratory and Industrial Articles, Including Those Transparent or Translucent for Infrared or Ultraviolet Radiation, Such as Tubes, Containers and Receptacles and Crucibles.

First use April 1956; in commerce July 31, 1957.

SN 108,831. Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. Filed Nov. 21, 1960.

Owner of German Reg. Nos. 72,277, dated Sept. 20, 1904; 132,669, dated July 26, 1910; and 326,846, dated Jan. 13, 1925.

For Instruments for Measuring Voltage, Current and Power; Light Measuring Devices, Insulation Testing Devices, Current Indicators, Ground-Connection Testers; Electricity Meters Including Watt-Hour Meters and Ampere-Hour Meters; Temperature Measuring Devices Including Pyrometers, Resistance Thermometers and Temperature Remote Indicators; Apparatus for Measuring Distance, Direction, Altitude, Speed, Inclination, Time, Frequency; Steam Pressure Gauges; Air Pressure Gauges; Gas Meters; Oscillographs; and Components, Parts and Accessories of the Aforesaid Products.

SN 115,378. Robertshaw-Fulton Controls Company, Richmond, Va. Filed Mar. 10, 1961.

SLEEVE-STAT

For Thermostats for Controlling the Temperatures of Coolants in Internal Combustion Engines.
First use Feb. 22, 1961.

SN 115,742. Univis, Inc., Fort Lauderdale, Fla. Filed Mar. 15, 1961.

For Ophthalmic Lenses and Lens Blanks.
First use Feb. 23, 1961.

SN 116,451. Wilfrid O. White & Sons, Inc., Boston, Mass. Filed Mar. 24, 1961.

TRANSCENTURY

For Nautical Instruments, Particularly Depth Sounders.
First use June 1959.

SN 116,962. Aseptic Thermo Indicator Company, North Hollywood, Calif. Filed Apr. 3, 1961.

ATI

For Temperature and Sterilization Indicator Devices.
First use on or about Aug. 1, 1932.

SN 116,997. General Controls Co., Glendale, Calif. Filed Apr. 3, 1961.

WIZARD

For Electric Counters.
First use Feb. 12, 1932.

SN 117,349. Fielden Electronics Limited, Wythenshawe, Manchester, England. Filed Apr. 7, 1961.

TELSTOR

Owner of British Reg. No. 712,659, dated Nov. 27, 1952.
For Electronically Operated Level Indicators.

SN 117,350. Fielden Electronics Limited, Wythenshawe, Manchester, England. Filed Apr. 7, 1961.

TEKTOR

Owner of British Reg. No. 675,083, dated Dec. 3, 1948.
For Electronic Apparatus for Performing Switching Operations by Means of Its Sensitivity to the Proximity of Moving Objects; and Counting, Measuring, Indicating, Signalling and Checking Apparatus Incorporating Such Electronic Switching Apparatus.

Class 27 — Horological Instruments

SN 114,806. Sunbeam Corporation, Chicago, Ill. Filed Mar. 2, 1961.

THE VILLA

For Clocks.
First use Feb. 13, 1961.

SN 115,314. Dundee Watch Company, Chicago, Ill. Filed Mar. 10, 1961.

For Watches.
First use Jan. 25, 1961.

SN 115,424. Max Blum, d.b.a. Sea Liner Watch Co., New York, N.Y. Filed Mar. 13, 1961.

SEA LINER

For Watches and Watch Movements.
First use June 8, 1954.

SN 115,513. Novochoc S.A., La Chaux-de-Fonds, Neuchatel, Switzerland. Filed Mar. 13, 1961.

NEW DIAC

Owner of Swiss Reg. No. 182,254, dated Sept. 7, 1960.
For Shock-Absorbing Bearings for Horological Pieces.

SN 115,514. Novochoc S.A., La Chaux-de-Fonds, Neuchatel, Switzerland. Filed Mar. 13, 1961.

NEWSHOCK

Owner of Swiss Reg. No. 140,669, dated Jan. 17, 1952.
For Shock-Absorbing Bearings for Horological Pieces.

SN 115,910. General Time Corporation, New York, N.Y. Filed Mar. 17, 1961.

WESTPORT

Owner of Reg. Nos. 108,232 and 702,220.
For Watches and Parts Thereof.
First use September 1960.

SN 116,793. The Ball Company, Chicago, Ill. Filed Mar. 30, 1961.

BALL TRAINMASTER

For Watches.
First use Mar. 16, 1961.

Class 28 — Jewelry and Precious-Metal Ware

SN 115,255. Renoir of California, Inc., Los Angeles, Calif. Filed Mar. 9, 1961.

Endearings

For Enameled Sterling Silver Rings and Earrings.
First use Sept. 27, 1960.

SN 115,911. Goodman and Morris, Portland, Oreg. Filed Mar. 17, 1961.

TREND

For Diamond Rings.
First use in or about April 1960.

SN 115,982. The Alvin Corporation, Providence, R.I. Filed Mar. 20, 1961.

PIROUETTE

For Sterling Silver Flatware and Table Cutlery.
First use Feb. 27, 1961.

SN 116,707. Coro, Inc., New York, N.Y. Filed Mar. 29, 1961.

Elegante

Owner of Reg. No. 516,662.
For Pearl Necklaces, Pearl Bracelets, Pearl Earrings, and All Pearls for Personal Wear and Adornment—Namely, Pearl Brooches, and Pearl Finger Rings, Pendants, Necklaces, Bracelets, Earrings, Jewelry Clips, Brooches, Lockets, Finger Rings, Charm Bracelets, Charms, and the Following Goods Made in Whole or in Part of Precious Metals or Plated With Same: Beads, Pins and Jewelry Initials.
First use April 1948.

SN 116,711. Fairfax Distributing Co., Inc., Washington, D.C. Filed Mar. 29, 1961.

YOURS FOR LOVE—
YOURS FOR LIFE

Owner of Reg. No. 605,271.
For Diamond Finger Rings.
First use December 1952.

SN 116,899. Matsu Pearl Importing Co., New York, N.Y. Filed Mar. 31, 1961.

MATSU

For Cultured Pearls and Costume Jewelry—Namely, Rings, Earrings, Pendants, Bracelets and Tie Tacks.
First use in January 1960.

Class 29 — Brooms, Brushes, and Dusters

SN 114,238. Maendler Brush Mfg. Co. Inc., St. Paul, Minn. Filed Feb. 23, 1961.

For Paint Brushes.
First use Jan. 18, 1961.

Class 31 — Filters and Refrigerators

SN 107,167. Alaska-Werk Dieter Schildbach K-G, Bergneustadt, Germany. Filed Oct. 26, 1960.

Owner of U.S. Reg. No. 708,733.
For Household Refrigerators.
First use Dec. 1, 1959.

SN 108,832. Siemens & Halske Aktiengesellschaft, Munich, Germany. Filed Nov. 21, 1960.

Owner of German Reg. No. 337,261, dated Aug. 3, 1925.
For Refrigerating Apparatus and Components and Parts Thereof.

SN 108,833. Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. Filed Nov. 21, 1960.

Owner of German Reg. No. 326,846, dated Jan. 13, 1925.
For Refrigerating Apparatus and Components and Parts Thereof.

SN 114,390. American Air Filter Company, Inc., Louisville, Ky. Filed Feb. 27, 1961.

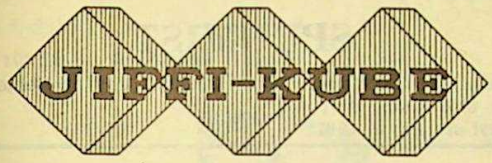
DRI-PAK

For High Efficiency Unit Air Filters for Use in Ventilating and Air Conditioning Systems.
First use Jan. 25, 1961.

SN 114,474. Gould-National Batteries, Inc., St. Paul, Minn. Filed Feb. 27, 1961.

For Air Filters and Oil Filters for Internal Combustion Engines.
First use Nov. 11, 1960.

SN 115,480. Jiffi-Kube Corporation, Gardena, Calif. Filed Mar. 13, 1961.



The drawing is lined for red.
For Automatic Ice Cube Vending Machines.
First use Nov. 15, 1959.

Class 32 — Furniture and Upholstery

SN 110,682. Henredon Furniture Industries, Incorporated, Morganton, N.C. Filed Dec. 22, 1960.

CIRCA '70

Owner of Reg. No. 597,074.
For Bedroom, Dining Room, Upholstered, and Occasional Furniture.
First use April 1960.

SN 113,392. Blair Displays, Incorporated, St. Louis, Mo. Filed Feb. 10, 1961.

VITA-MATIC

For Display Counter Unit.
First use Dec. 26, 1960.

SN 116,914. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Mar. 31, 1961.

PROLON

For Molded Plastic Drawers.
First use June 26, 1957.

SN 117,520. Joe Myers Advertising Specialties, Inc., Indianapolis, Ind. Filed Apr. 10, 1961.

WINNAH

For Multi-Purpose Cushion.
First use Mar. 10, 1961.

SN 117,580. West Side Mattress Company, Inc., Wichita, Kans. Filed Apr. 10, 1961.

The Millerite

For Mattresses, Box Springs and Related Bedding Products.
First use March 1947.

SN 117,654. M. J. Eunice and S. J. Sirocky, Pittsburgh, Pa. Filed Apr. 11, 1961.

FOAM-AD

For Seat Pad.
First use Feb. 18, 1961.

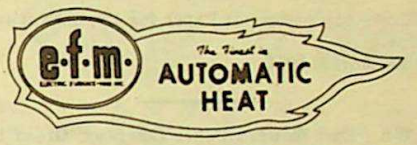
Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 99,386. Western Boiler Co., Los Angeles, Calif. Filed June 20, 1960.

HUSKY

For Industrial Oil and Gas Fired Steam and Hot Water Boilers.
First use Apr. 4, 1960.

SN 100,115. Electric Furnace-Man, Inc., Emmaus, Pa. Filed July 1, 1960.



"The Finest in Automatic Heat" is disclaimed except in association with the mark.
For Oil and Gas Fired Boilers and Heaters.
First use Jan. 8, 1957.

SN 101,559. Lamb Industries, Inc., Toledo, Ohio. Filed July 27, 1960.

ALUMATIC

Owner of Reg. No. 436,651.
For Hot Water Heaters.
First use May 22, 1957.

SN 111,762. Rock Island Register Co., Rock Island, Ill. Filed Jan. 12, 1961.

BENDA-VANE

For Forced Air Grilles and Registers.
First use Jan. 2, 1941.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 112,231. Dayco Corporation, Dayton, Ohio. Filed Jan. 23, 1961.

DAY-FLO

Owner of Reg. Nos. 297,677, 687,226, and others.
For Rubber Fluid-Conveying Hose.
First use Sept. 13, 1960.

Class 36 — Musical Instruments and Supplies

SN 103,017. The Gray Manufacturing Company, Hartford, Conn. Filed Aug. 19, 1960.

LUMINDEX

For Index Strips for Sound Records Used on Sound Recording and Transcribing Machines.
First use July 19, 1960.

Class 37—Paper and Stationery

SN 70,011. Weber Costello Co., Chicago Heights, Ill. Filed Mar. 20, 1959.

PALLE-TRAY

For Plastic Trays Sold With Crayons, Chalks or Charcoal Sticks.
First use Oct. 28, 1958.

SN 92,409. Venus Pen & Pencil Corporation, New York, N.Y. Filed Mar. 8, 1960.

"PRESSURE PROOFED"

Owner of Reg. No. 379,514.
For Lead Pencils.
First use Apr. 26, 1939.

SN 110,083. Pillo-Pak of New England, Inc., Nashua, N.H. Filed Dec. 12, 1960.

SPRING-PAK

For Sheets of Corrugated Paper for Use in Various Forms of Packing.
First use Apr. 5, 1957.

SN 110,752. Fort Howard Paper Company, Green Bay, Wis. Filed Dec. 23, 1960.

BOSSTEX

Owner of Reg. No. 359,278.
For Toilet Tissue.
First use Aug. 24, 1960.

SN 113,374. Scott Paper Company, Philadelphia, Pa. Filed Feb. 9, 1961.

MAGIC OVAL

For Dispensing Boxes Incorporating Facial Tissues Therein.
First use Aug. 1, 1960.

SN 114,007. Kimberly-Clark Corporation, Neenah, Wis. Filed Feb. 20, 1961.

KIM

Owner of Reg. Nos. 229,755, 699,434, and others.
For Absorbent Paper—Namely, Facial Tissue and Toilet Tissue.
First use Feb. 13, 1961.

SN 115,803. Handy Wacks Corporation, Sparta, Mich. Filed Mar. 16, 1961.

HANDY WACKS

Applicant disclaims the word "Handy" apart from the mark shown. Owner of Reg. No. 413,868.
For Packaged Wax Paper.
First use Apr. 1, 1926.

SN 116,773. Waldorf Paper Products Company, St. Paul, Minn. Filed Mar. 29, 1961.

CHEM-WALD

For Corrugated Paperboard.
First use Sept. 14, 1960.

SN 116,838. Riegel Paper Corporation, New York, N.Y. Filed Mar. 30, 1961.

DRAPEX

For Plastic Laminated Film for Use as Packaging Material and in Particular a Polyethylene-Acetate Laminated Film.
First use on or before Mar. 20, 1959.

SN 116,868. Brown Company, Boston, Mass. Filed Mar. 31, 1961.

TWS

For Paper Towels.
First use Nov. 23, 1960.

SN 119,258. Kimberly-Clark Corporation, Neenah, Wis. Filed May 4, 1961.

SPUNMIST

For Absorbent Tissue Paper Suitable for Hygienic, Cosmetic, or Cleaning Purposes.
First use May 2, 1961.

Class 38—Prints and Publications

SN 78,031. I-T-E Circuit Breaker Company, Philadelphia, Pa. Filed July 20, 1959.

SPEEDFAX

For Catalogues Issued Periodically and Containing Information Concerning Electrical Equipment.
First use in December 1951.

SN 100,307. Sigma Chemical Company, St. Louis, Mo. Filed July 5, 1960.

SIGMA

For Technical Bulletins Published From Time to Time.
First use September 1951.

SN 101,954. I. Lodge Catalogs, Inc., Philadelphia, Pa. Filed Aug. 3, 1960.

FUN FAIR

For Catalogues Published From Time to Time.
First use July 21, 1960.

SN 112,924. Standard & Poor's Corporation, New York, N.Y. Filed Feb. 1, 1961.

STOCKSCOPE

For Rotatable Disc Stock Market Reference Charts.
First use Sept. 11, 1959.

Class 39—Clothing

SN 43,361. Jack Adams, d.b.a. Bonny's Skating Apparel, New York, N.Y. Filed Jan. 3, 1958.

BONNY

Owner of Reg. No. 636,485.
For Skating Tights and Skating Jackets.
First use January 1950.

SN 94,780. Etablissements Lejaby, Paris, France. Filed Apr. 11, 1960.

LEJABY

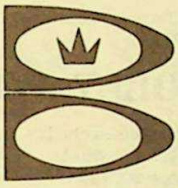
For Ladies' Garments—Namely, Underwear, Brassieres, Negligees, Corsets, Girdles, Blouses, Nightgowns, Stockings, Bathing Costumes, and Leotards.
First use June 20, 1957; in commerce June 20, 1957.

SN 98,538. Scout-Tex, Inc., New York, N.Y. Filed June 6, 1960.

KNIT-WITS

For Infants' Polo Shirts, Shirts, Slacks, Capri Pants, Pedal Pushers, Shorts, Pants, Jackets, Diapers, and Combinations Thereof.
First use January 1957.

SN 102,190. Brunswick Corporation, Chicago, Ill. Filed Aug. 8, 1960.



For Shoes for General Wear and Sport Wear.
First use May 1959.

SN 102,992. The Bernhard Altmann Corporation, New York, N.Y. Filed Aug. 19, 1960.

BERNHARD ALTMANN

The name "Bernhard Altmann" is that of applicant's former president and founder of applicant's business, now deceased. Owner of Reg. Nos. 549,931, 629,209, and others.
For Sweaters, Skirts, Blouses, Sport Jackets, Hosiery, Dresses, Robes, Coats, Scarfs, and Barrets.
First use 1946.

SN 105,999. Phyllis Shoe Company, Inc., Lowell, Mass. Filed Oct. 7, 1960.

Cupids

For Ladies' Shoes.
First use Sept. 6, 1960.

SN 110,731. Azalea Originals Inc., New York, N.Y. Filed Dec. 23, 1960.

Azalea Originals

No claim is made to the word "Originals" apart from the mark shown in the drawing.
For Stoles, Blouses, Capes, Cloaks, Women's Dresses, Suits, Scarfs, Women's Bathing Suits, and Pullovers.
First use during October 1960.

SN 110,777. Mrs. America, Inc., New York, N.Y. Filed Dec. 23, 1960.

MRS. AMERICA

Owner of Reg. Nos. 575,274 and 705,656.
For Women's Dresses.
First use August 1960.

SN 111,620. Societe de la Viscose Suisse, Emmenbrucke, Switzerland. Filed Jan. 10, 1961.

NYLSUISSE

For Hosiery, Shirts, Underwear, Ties, for Men, Women, and Children.
First use August 1957; in commerce in or about February 1958.

SN 113,741. Mandel Manufacturing Company, St. Louis, Mo. Filed Feb. 15, 1961.

No claim is made by applicant to the use of the word "Britches" apart from the mark as shown in the drawing.
For Ladies' Outer-Wear, Consisting of Women's Capri Length and Jamaica Length Pants.
First use July 1, 1960.

SN 114,575. Dal-Tex Shoe Company, Inc., Dallas, Tex. Filed Feb. 27, 1961.

DALLE VALLE DEBS

For Shoes.
First use Mar. 5, 1959.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 102,993. The Bernhard Altmann Corporation, New York, N.Y. Filed Aug. 19, 1960.

BERNHARD ALTMANN

The name "Bernhard Altmann" is that of applicant's former president and founder of applicant's business, now deceased. Owner of Reg. Nos. 549,931, 629,209, and others.
For Fabrics for Making Coats, Suits, Dresses, Robes, and Jackets.
First use 1946.

SN 104,443. Fabrex Corp., New York, N.Y. Filed Sept. 14, 1960.

INSTANT WARDROBE

For Piece Goods Made of Polyester Fibers, Acrylic Fibers and Blends Thereof.
First use Aug. 31, 1960.

SN 106,477. Courtaulds, Limited, London, England. Filed Oct. 17, 1960.

DELTINE

Owner of British Reg. No. 530,152, dated Mar. 12, 1932; and U.S. Reg. No. 315,750.
For Shrink-Resistant Rayon Piece Goods for Use as Linings in Outer Garments.

SN 111,789. Courtaulds, Limited, London, England. Filed Jan. 13, 1961.

COURTELLE

Priority claimed under Sec. 44(d) on British Reg. No. 814,825, dated Dec. 20, 1960. Owner of U.S. Reg. Nos. 396,182 and 703,071.

For Textile Piece Goods Consisting Wholly or Mainly of Acrylic Fibers.

SN 115,641. Terry Tuck, Inc., Los Angeles, Calif. Filed Mar. 14, 1961.

DRESS-A-PILLOW

For Decorative Pillow Covers (Shams).
First use June 15, 1960.

SN 115,774. Burlington Industries, Inc., New York, N.Y. Filed Mar. 16, 1961.

ISOTHERM

For Textile Fabrics in the Piece Suitable for Use in the Manufacture of Men's and Boys' Suits, Slacks, Sportcoats and Topcoats; and Women's Suits, Dresses and Coats.
First use June 23, 1959.

SN 116,160. Shirley Fabrics Corporation, New York, N.Y. Filed Mar. 21, 1961.

GLENORA

For Textile Fabrics in the Piece of Cotton, Rayon, Synthetic Fibres and Mixtures Thereof.
First use Feb. 1, 1961.

Class 44 — Dental, Medical, and Surgical Appliances

SN 107,214. Marion S. Pump, d.b.a. Wolverton Enterprises, Kalamazoo, Mich. Filed Oct. 26, 1960.

E-ZE FLO

Owner of Reg. No. 653,230.
For Dispenser for Hairdressing Liquids.
First use Sept. 26, 1955.

SN 109,152. Barr Winley Co., Inc., Evanston, Ill. Filed Nov. 28, 1960.

KLEENPAK

For Disposable Fountain Syringe.
First use Jan. 1, 1952.

SN 115,064. Laboratory Associates, North Brunswick, N.J. Filed Mar. 7, 1961.

G-I STRING

For Tape for Location of Bleeding in the Intestinal Tract.
First use Sept. 11, 1958.

SN 121,664. The Anchor Rubber Company, Orange, Conn. Filed Apr. 28, 1961.

GOLD ANCHOR BRAND

Applicant disclaims the word "Brand," without relinquishing any common law rights therein.
For Surgical Latex Tissue Finger Cots.
First use May 31, 1949.

Class 45 — Soft Drinks and Carbonated Waters

SN 87,168. A/S Dansk Coladrik, Copenhagen, Denmark. Filed Nov. 5, 1959.

JOLLY COLA

Applicant disclaims the exclusive right to the use of "Cola" apart from the mark as a whole. Owner of Danish Reg. No. 1081–1959, dated June 20, 1959.
For Cola Type Soft Drinks.

Class 46 — Foods and Ingredients of Foods

SN 56,704. P. Ferrero & C., Alba, Cuneo, Italy. Filed Aug. 6, 1958.

Ferrero ALBA

Owner of Italian Reg. No. 116,549, dated Mar. 22, 1954; and U.S. Reg. No. 708,557.
For Pastry, Candies, Biscuits, Jams, Sugar, Honey, Cocoa, Baking Chocolate, Tea, Coffee, and Coffee Substitutes, Spices.

SN 75,202. North Pacific Canners & Packers, Inc., Portland, Oreg. Filed June 5, 1959.

ROYAL PURPLE

For Canned and Frozen Vegetables and Fruit, Excluding Plums.
First use 1921 on canned fruit.

SN 79,820. Virg Davidson-Chudacoff Company, Culver City, Calif. Filed Aug. 18, 1959.

TOP HAT BRAND

Applicant makes no claim to the word "Brand."
For Frozen and/or Fresh Dressed Poultry and Parts Thereof.
First use September 1953.

SN 86,058. Northern Supply Co., Amery, Wis. Filed Nov. 25, 1959.

MO-FLAS

For Dairy Feed.
First use Oct. 1, 1952.

SN 90,180. Bruce O. Nicholes, Madras, Oreg. Filed Feb. 2, 1960.

The lining on the drawing represents shading only.
For Fresh Potatoes.
First use Nov. 1, 1954.

SN 92,032. A. Michaud Co., Philadelphia, Pa. Filed Mar. 2, 1960.

For Frozen Meats.
First use on or about Nov. 16, 1959.

SN 92,880. Hollywood Brands, Inc., Centralia, Ill. Filed Mar. 15, 1960.

Owner of Reg. Nos. 515,986, 634,956, and 707,260.
For Candy.
First use Jan. 15, 1957.

SN 93,192. Luk-O-Ma Corporation, Port Chester, N.Y. Filed Mar. 18, 1960.

LUK-O-MA!

For Fried Edible Ball-Like Pastry.
First use Feb. 12, 1960.

SN 93,457. Safeway Stores, Incorporated, Oakland, Calif. Filed Mar. 22, 1960.

The mark as depicted in the accompanying drawing represents a portion of the container of the goods. Applicant disclaims the entire background design matter apart from the mark shown; reserving, however, any common law rights it may have therein.
For Fresh Orange Juice.
First use Jan. 1, 1960.

SN 94,071. Kitchen Products, Inc., Chicago, Ill. Filed Mar. 31, 1960.

PALM BEACH

For Canned Citrus Fruit Juice.
First use during 1932.

SN 95,457. The Taylor Provisions Company, d.b.a. Taylor Provisions Co., Trenton, N.J. Filed Apr. 20, 1960.

POP-UPS

For Combination Package Containing Sliced Chopped Meat in "Loaf" or "Roll" Form and a Cooking Pouch Therefor.
First use Apr. 12, 1960.

SN 97,607. Armour and Company (Delaware corporation), Chicago, Ill., assignee of Armour and Company (Illinois corporation), Chicago, Ill. Filed May 23, 1960.

FRI-CHIP

For Vegetable Shortening.
First use May 2, 1960.

SN 97,683. National Pectin Products Company, Chicago, Ill. Filed May 23, 1960.

The phrase "Cold Soluble" is disclaimed apart from the mark as shown.
For Cold Water Soluble Food Stabilizer Consisting of Pectin, Locust Bean Gum, Sucrose and Dextrose, Said Product Being Sold Only to Food Processors.
First use May 25, 1956.

SN 98,873. Crown Meat & Provision Co. Inc., Minneapolis, Minn. Filed June 13, 1960.

CORONET

Owner of Reg. No. 605,868.
For Smoked Beef Tongues.
First use May 1956.

SN 101,024. James G. Moran, d.b.a. Moran Specialties, Burbank, Calif. Filed July 18, 1960.

For Fruit Coated Ice Cream Bars.
First use June 11, 1960.

SN 102,299. Best Kosher Sausage Co., Chicago, Ill. Filed Aug. 9, 1960.

BEST'S

For Bologna, Breakfast Beef, Breakfast Sausages, Corned Beef, Frankfurters, Frozen Beef Patties, Garlic Sausage, Kishka, Knackwurst, Liver Sausage, Pastrami, Peppermeat, Pickled Brisket, Salami, and Tongue.
First use 1936.

SN 102,343. Reynolds Brothers, Incorporated, Sturgeon Bay, Wis. Filed Aug. 9, 1960.

CHEREFRESH

For Canned Cherry Juice.
First use on or about July 29, 1935.

SN 104,748. Northville Laboratories, Incorporated, Northville, Mich. Filed Sept. 19, 1960.

NOLAVAN

For Vanilla, Vanilla Powder and Imitation Vanilla Flavor for Food Purposes.
First use Jan. 4, 1954.

SN 105,083. Kakawateez, Ltd., Findlay, Ohio. Filed Sept. 23, 1960.

Applicant disclaims the word "Peanuts."
For Sugar Coated Peanuts.
First use June 23, 1960.

SN 105,427. Fisher Cheese Company, Wapakoneta, Ohio. Filed Sept. 29, 1960.

Apple Valley

For Cheese.
First use Mar. 4, 1957.

SN 108,377. Prima Foods Inc., New York, N.Y. Filed Nov. 14, 1960.

DANISH PRIDE

No claim of exclusive right is made to "Danish," it being the place of geographic origin of the product. Owner of Reg. No. 705,315.
For Canned Ham.
First use May 1955.

SN 109,601. M & R Dietetic Laboratories, Inc., Columbus, Ohio. Filed Dec. 5, 1960.

ENGLISH INN

For Canned Meats and Chili Con Carne.
First use July 26, 1960.

SN 109,634. Seaboard Allied Milling Company, d.b.a. Rodney Milling Company, Kansas City, Mo. Filed Dec. 5, 1960.

For Wheat Flour.
First use Aug. 1, 1918.

SN 109,825. James O. Welch Company, Cambridge, Mass. Filed Dec. 7, 1960.

JAMAICA MINTS

Applicant claims no exclusive right to the word "Mints" apart from the mark as shown.
For Candy.
First use August 1960.

SN 110,134. Gonzalo Raul Avila, d.b.a. Avila y Espinosa, Culiacan, Sinaloa, Mexico. Filed Dec. 13, 1960.

NOGALITOS

The drawing is lined for shading.
For Fresh Vegetables.
First use Dec. 1, 1942; in commerce Dec. 1, 1942.

SN 110,938. Fant Milling Company, Sherman, Tex. Filed Dec. 28, 1960.

DUTCH OVEN

For Flour.
First use Nov. 14, 1960.

SN 115,351. Kelvin K. Larson, d.b.a. Corleen Farms, Indio, Calif. Filed Mar. 10, 1961.

DESERT DIAMONDS

For Fresh Grapes.
First use Jan. 21, 1961.

SN 116,222. Food Products Company of America, Chicago, Ill. Filed Mar. 22, 1961.

DOG HOUSE

For Dog and Cat Food.
First use in or about March 1937.

SN 116,382. Bruce Church, Inc., Salinas, Calif. Filed Mar. 24, 1961.

WHITE WING

For Fresh Melons.
First use at least as early as June 1959.

SN 116,474. The Carey Salt Company, Hutchinson, Kans. Filed Mar. 27, 1961.

EV'R-FLO

For Salt for Stock Feed.
First use Sept. 21, 1960.

SN 116,608. Van Camp Sea Food Company, Port of Long Beach, Calif. Filed Mar. 27, 1961.

MISSION

Owner of Reg. No. 132,275.
For Canned Tuna.
First use May 23, 1918.

SN 116,632. Flotill Products, Incorporated, Stockton, Calif. Filed Mar. 28, 1961.

MULTI-MATO

For Canned Tomatoes.
First use Mar. 15, 1961.

SN 116,927. Rala Singh, d.b.a. Rala Singh Farms, Glendale, Ariz. Filed Mar. 31, 1961.

COMPLETE

For Fresh Vegetables.
First use November 1957.

SN 117,258. Frederick Joseph Carten, Westmount, Quebec, Canada. Filed Apr. 6, 1961.

SEAGYL

Owner of Canadian Reg. No. 102,263, dated Dec. 23, 1955.
For Food Product Made From Seaweed (Dulse, Etc.), Being in the Nature of a Dietary Supplement Containing Minerals.

SN 117,338. Buddy Boy Popcorn Co., Watseka, Ill. Filed Apr. 7, 1961.

POPPIN' GOOD

For Unpopped Popcorn.
First use Aug. 26, 1954.

Class 49 — Distilled Alcoholic Liquors

SN 82,072. Barton Distilling Company, Chicago, Ill. Filed Sept. 25, 1959.

CZARINA

For Vodka.
First use June 13, 1955.

SN 105,006. Katz Drug Company, Kansas City, Mo. Filed Sept. 22, 1960.

HIGHLAND PRIDE

For Blended Scotch Whisky.
First use Sept. 6, 1960.

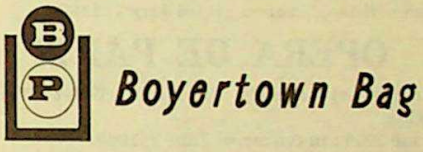
Class 50 — Merchandise Not Otherwise Classified

SN 94,485. Robert A. Grossman, d.b.a. R. A. Grossman Co., Richmond Hill, N.Y. Filed Apr. 6, 1960.

PEG-A-SIGN

For Combined Interchangeable Display Letters and Perforated Boards.
First use Feb. 11, 1960.

SN 107,550. Boyertown Packaging Service Corp., Boyertown, Pa. Filed Nov. 1, 1960.



For Cushioned Shipping Pads.
First use Sept. 13, 1960.

SN 118,064. Gotham Chalkboard & Trim Co. Inc., New Rochelle, N.Y. Filed Apr. 18, 1961.

"Hi-Temp"

For Chalkboards and Blackboards.
First use Sept. 1, 1955.

SN 118,893. Malt-A-Plenty, Inc., Tulsa, Okla. Filed Apr. 28, 1961.

FLAMING SNOWBALLS

Owner of Reg. No. 623,751.
For Package Containing Candles, Doilies, and Ice Cream Balls Covered With Cocoanut.
First use Nov. 3, 1954.

Class 51 — Cosmetics and Toilet Preparations

SN 81,723. Minkolein Company, Waldwick, N.J. Filed Sept. 21, 1959.

For Cosmetic Facial and Body Emollient Creams and Lotions, Liquid Foundation Base, and Suntan Lotion.
First use May 20, 1959.

SN 89,945. Helena Rubinstein, Inc., New York, N.Y. Filed Jan. 29, 1960.

COVER FLUID

Applicant disclaims the word "Fluid" apart from the mark as a whole.
For Make-Up Base.
First use Sept. 23, 1959.

SN 96,524. Ravell Laboratories, Inc., Somerville, N.J. Filed May 5, 1960.

RF FORMULA 3

Applicant disclaims the word "Formula" apart from the mark as shown.
For Cleansing Cream, Dry Skin Cream, Hormone Cream, Hand and Body Lotion, Milk Complexion Soap, and Protein Tooth Paste.
First use Dec. 18, 1959.

SN 100,472. Societe Maurice Blanchet, Parfums de Luxe, Suresnes (Seine), France. Filed July 7, 1960.

OPERA DE PARIS

For Perfumery—Namely, Perfumes, Toilet Water, and Skin Lotion.
First use 1959; in commerce June 8, 1960.

SN 104,644. Scandia Cosmetics Corporation, d.b.a. Scandia, New York, N.Y. Filed Sept. 16, 1960.

SECRET TOUCH

For Compact Face Powder.
First use Nov. 14, 1957.

SN 106,815. Lehn & Fink Products Corporation, Bloomfield, N.J. Filed Oct. 20, 1960.

WIND AND WEATHER

Owner of Reg. No. 383,277.
For Hand Cream and a Preparation Recommended for Use as a Skin Lotion and for Use as a Foundation Base for Powder.
First use Jan. 7, 1935, on a preparation recommended for use as a skin lotion and foundation base for powder.

SN 108,666. John Robert Powers Products Co., Inc., New York, N.Y. Filed Nov. 17, 1960.

BIO-TONIC MASQUE

For purposes of registration the word "Masque" is disclaimed apart from the mark as shown.
For Cosmetic Skin Lotion.
First use June 30, 1960.

SN 110,545. Lady Iris Cosmetic Company, Inc., New York, N.Y. Filed Dec. 20, 1960.

LADY IRIS

For Cosmetic Pencils.
First use Dec. 1, 1960.

SN 110,839. The Fuller Brush Company, East Hartford, Conn. Filed Dec. 27, 1960.

THE FIRST ROSE

For Cologne.
First use on or about June 25, 1960.

SN 110,843. The Fuller Brush Company, East Hartford, Conn. Filed Dec. 27, 1960.

NIGHT FIRE

For Cologne.
First use on or about June 20, 1960.

SN 112,898. Houbigant, Inc., New York, N.Y. Filed Feb. 1, 1961.

Spray gift

For Toilet Water.
First use July 21, 1960.

Class 52 — Detergents and Soaps

SN 81,722. Minkolein Company, Waldwick, N.J. Filed Sept. 21, 1959.

Earl of Mink

The lining on the drawing does not represent color.
For Hair Shampoo.
First use May 20, 1959.

SN 82,257. Madison Chemical Corporation, d.b.a. The Madison Supply and Equipment Co., Maywood, Ill. Filed Sept. 28, 1959.

ACT-O-VENE

For Rug, Carpet and Upholstery Cleaner.
First use in April 1954.

SN 102,002. American Home Products Corporation, d.b.a. Boyle-Midway, New York, N.Y. Filed Aug. 4, 1960.

QUIK-DIP

For Preparation for the Cleaning of Silver.
First use Nov. 3, 1952.

SN 103,863. Lestoil Products, Inc., Holyoke, Mass. Filed Sept. 2, 1960.

LESTOIL SPARKLE SCENT

Owner of Reg. Nos. 343,957, 636,572, and 702,036.
For Liquid Detergent for Laundering and Household Cleaning.
First use Aug. 16, 1960.

SN 103,874. Ransohoff Company, Hamilton, Ohio. Filed Sept. 2, 1960.

RANSOHOFF

For Detergents for Cleaning Metal and Metal Parts, Acid Pickling and Descaling Compounds, Acid Cleaning and Rinsing Compounds, Alkaline Descalers and Cleaners, Electro-Cleaners and Abrasive Cleaning Compounds and Mixtures Thereof for Treating and Cleaning Metals.
First use Aug. 21, 1959.

SN 104,132. Amway Sales Corporation, Grand Rapids, Mich. Filed Sept. 9, 1960.

AMWAY

Owner of Reg. Nos. 707,656, 716,128, and 716,672.
For All Purpose Cleaning Concentrates, Detergents and Soaps in Liquid, Powder and Solid Form.
First use Nov. 16, 1959.

SN 112,868. Warco Laboratories, Inc., Gardena, Calif. Filed Jan. 31, 1961.

WARCO

Owner of Reg. No. 679,395.
For Rug and Upholstery Shampoo.
First use July 29, 1960.

SN 115,464. Fix-Off Company, Inc., Detroit, Mich. Filed Mar. 13, 1961.

FIX-OFF

For Stain Remover for Fabrics.
First use Oct. 14, 1954.

SN 115,618. Northern Laboratories, Manitowoc, Wis. Filed Mar. 14, 1961.

JADEX

For Household Detergent.
First use Feb. 13, 1961.

SERVICE MARKS

Class 100 — Miscellaneous

SN 58,633. B. H. Johnson, Cincinnati, Ohio. Filed Sept. 9, 1958.

Country Kitchen

For Restaurant and Catering Services.
First use Nov. 27, 1939.

SN 102,884. American Travelers Club, Inc., Wilmington, Del. Filed Aug. 18, 1960.

ATC

For Rendering Assistance to American Travellers in Foreign Countries—Namely, Giving Such Travellers Information With Respect to Reservations, Restaurants, Night Clubs, Shopping, Automobile Rentals and Customs Regulations With Respect to Foreign Countries.
First use April 1960.

Class 101 — Advertising and Business

SN 81,229. Associated Grocers' Company of St. Louis, Missouri, St. Louis, Mo. Filed Sept. 14, 1959. COLLECTIVE MARK.

AG STORES

Applicant disclaims any exclusive rights to the word "Stores" apart from the mark as shown. Owner of Reg. Nos. 220,072, 567,401, and others.
For Retail Grocery Services To Indicate the Services Rendered by the Members of Applicant.
First use July 23, 1923.

SN 81,951. Alvin B. Yerkes, Jr., d.b.a. The Sharaday Company, Huntington, Ind. Filed Sept. 23, 1959.

For Advertising Services.
First use Apr. 14, 1959.

SN 102,725. Atlantic Appliance Co., Inc., Neptune, N.J. Filed Aug. 16, 1960.

SUPERAMA

For Department Store Service.
First use on or about June 1, 1954.

SN 113,226. Interprel Corporation, Pittsburgh, Pa. Filed Feb. 7, 1961.

INTERPREL

For Advertising Services, Public Relations Advisory Services, and Counseling Services Relating to Promotional Activities Such as Sales Promotion.
First use Nov. 1, 1960.

Class 102 — Insurance and Financial

SN 99,421. Education Funds Inc., Providence, R.I. Filed June 21, 1960.

efi

For Providing and Distributing Funds for Loans for Educational Purposes.
First use May 16, 1960.

Class 103 — Construction and Repair

SN 75,879. Precision Recapping Equipment Co., Macon, Ga. Filed June 16, 1959.

DEN AIR

For Retreading Aircraft Tires of Others.
First use Sept. 3, 1953.

Class 104 — Communication

SN 113,255. American Broadcasting-Paramount Theatres, Inc., New York, N.Y. Filed Feb. 8, 1961.

abc

For Broadcasting of Television Programs.
First use Nov. 20, 1956.

Class 105 — Transportation and Storage

SN 83,885. Hammel Moving & Storage, Inc., Detroit, Mich. Filed Oct. 23, 1959.

WHERE IN THE WORLD DO YOU WANT TO GO?

For Transporting Household Goods and Miscellaneous Freight by Vehicle.
First use in December 1954.

Class 107 — Education and Entertainment

SN 59,872. American Machine & Foundry Company, New York, N.Y. Filed Oct. 1, 1958.

BOWL WHERE YOU SEE THE "MAGIC AMF TRIANGLE"

Owner of Reg. Nos. 168,740, 665,632, and others.
For Rental and Maintenance of Automatic Pin Setting Machines for Bowling; Stimulating Interest in Bowling by Operating Instructional Clinics and by Means of Brochures, Newspaper and Periodical Advertisements.
First use as early as October 1957; September 1956 in substantially the form shown.

SN 98,526. Programs for Achievement in Reading, Inc., Providence, R.I. Filed June 6, 1960.

PAR

For Installation and Orientation of Educational Programs for Others.
First use on or about May 24, 1960.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

721,163. FASTER STARTING AND DESIGN. Northern Minnesota Bluegrass Growers Assn. SN 89,195. Pub. 6–27–61. Filed 1–18–60.

721,164. KOBBLER KIP. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 99,997. Pub. 6–27–61. Filed 6–30–60.

721,165. STRUCTO-FOAM AND DESIGN. General Foam Products. SN 103,142. Pub. 6–27–61. Filed 8–22–60.

721,166. ELASTOE. Beckwith-Arden Inc. SN 108,535. Pub. 6–27–61. Filed 11–16–60.

721,167. EAU-NO AND DESIGN. John E. Daniels Leather Company. SN 109,850. Pub. 6–27–61. Filed 12–8–60.

721,168. W AND DESIGN WITHIN A CIRCLE. Westinghouse Electric Corporation. CONSOLIDATED CERTIFICATE. SN 111,032, pub. 6–20–61, filed 12–29–60, Cl. 1; SN 111,025, pub. 6–20–61, filed 12–29–60, Cl. 2; SN 111,033, pub. 6–20–61, filed 12–29–60, Cl. 6; SN 111,024, pub. 6–20–61, filed 12–29–60, Cl. 12; SN 111,029, pub. 6–20–61, filed 12–29–60, Cl. 13; SN 111,034, pub. 6–20–61, filed 12–29–60, Cl. 14; SN 111,035, pub. 6–20–61, filed 12–29–60, Cl. 15; SN 111,028, pub. 6–20–61, filed 12–29–60, Cl. 16; SN 111,030, pub. 6–20–61, filed 12–29–60, Cl. 21; SN 111,036, pub. 6–20–61, filed 12–29–60, Cl. 23; SN 111,027, pub. 6–20–61, filed 12–29–60, Cl. 24; SN 111,026, pub. 6–20–61, filed 12–29–60, Cl. 26; SN 111,038, pub. 6–20–61, filed 12–29–60, Cl. 31; SN 111,037, pub. 6–20–61, filed 12–29–60, Cl. 34; SN 111,031, pub. 6–20–61, filed 12–29–60, Cl. 44.

721,169. CAB-O-SIL. Cabot Corporation. SN 111,784. Pub. 6–27–61. Filed 1–13–61.

721,170. ANILSKIN. Armour and Company. SN 111,842. Pub. 6–27–61. Filed 1–16–61.

721,171. DELSUEDE. Armour and Company. SN 111,843. Pub. 6–27–61. Filed 1–16–61.

721,172. GREEN BOND. Archer-Daniels-Midland Company. SN 112,103. Pub. 6–27–61. Filed 1–19–61.

721,173. CROWN-SEAL. Crown Zellerbach Corporation. SN 112,227. Pub. 6–27–61. Filed 1–23–61.

721,174. PETAL-PUSHER. The Nitragin Company, Inc. SN 112,297. Pub. 6–27–61. Filed 1–23–61.

721,175. TEDLAR. E. I. du Pont de Nemours and Company. SN 112,527. Pub. 6–27–61. Filed 1–26–61.

721,176. SHUCRAFT. Albert Trostel & Sons Company. SN 112,794. Pub. 6–27–61. Filed 1–30–61.

721,177. GENFOAM. The General Tire & Rubber Company. SN 112,961. Pub. 6–27–61. Filed 2–2–61.

721,178. WYOBOND. Archer-Daniels-Midland Company. SN 113,072. Pub. 6–27–61. Filed 2–6–61.

721,179. WYO-JEL. Archer-Daniels-Midland Company. SN 113,073. Pub. 6–27–61. Filed 2–6–61.

721,180. RAYNORTH. Rayonier Incorporated. SN 113,240. Pub. 6–27–61. Filed 2–7–61.

721,181. SUPERANIER. Rayonier Incorporated. SN 113,241. Pub. 6–27–61. Filed 2–7–61.

721,182. GLAMOR BRANCH. Florida Ornamental Foliage Co. SN 113,821. Pub. 6–27–61. Filed 2–16–61.

Class 2 — Receptacles

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,183. STA-HANG. Action Bag & Envelope Co., Inc. SN 99,695. Pub. 6–27–61. Filed 6–27–60.

721,184. STA-SNAP. Action Bag & Envelope Co., Inc. SN 99,696. Pub. 6–27–61. Filed 6–27–60.

721,185. EVERGLAZE. Metal Coating Corporation. SN 105,185. Pub. 6–27–61. Filed 9–26–60.

721,186. CCC. Continental Can Company, Inc. SN 109,394. Pub. 6–27–61. Filed 12–1–60.

721,187. SLIDE-A-PIC. American MCW Dispensers, Inc. SN 109,548. Pub. 6–27–61. Filed 12–5–60.

721,188. BLUE OX. Waldorf Paper Products Co. SN 110,910. Pub. 6–27–61. Filed 12–27–60.

721,189. GLASTI-KLAD. Weben Boiler and Tank Company, Inc. SN 111,450. Pub. 6–27–61. Filed 1–6–61.

721,190. PLASTIBOX. Container Development Corporation. SN 111,586. Pub. 6–27–61. Filed 1–10–61.

Class 4 — Abrasives and Polishing Materials

721,191. Z-N. Minnesota Mining and Manufacturing Company. SN 98,668. Pub. 6–27–61. Filed 6–8–60.

721,192. POWER PUFF. Colgate-Palmolive Company. SN 113,089. Pub. 6–27–61. Filed 2–6–61.

Class 5 — Adhesives

721,193. NORAD. American Can Company. SN 113,060. Pub. 6–27–61. Filed 2–6–61.

Class 6 — Chemicals and Chemical Compositions

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,194. POLY URETHANE AND DESIGN. Mobay Chemical Company. SN 60,050. Pub. 6–27–61. Filed 10–3–58.

721,195. PENNOX. Pennsalt Chemicals Corporation. SN 78,143. Pub. 6–27–61. Filed 7–21–59.

721,196. BALAB. Francys C. Bresee, administratrix of the estate of Fred Bresee, Jr., d.b.a. Balab. SN 95,245. Pub. 6–27–61. Filed 4–18–60.

721,197. AYR-TRAP. Sun Chemical Corporation. SN 99,672. Pub. 6–27–61. Filed 6–24–60.

721,198. REPRESENTATION OF SKUNK ETC. Pennsalt Chemicals Corporation. SN 99,960. Pub. 6–27–61. Filed 6–29–60.

721,199. DYLANIZE. Stevensons (U.S.A.) Inc. SN 100,069. Pub. 6–27–61. Filed 6–30–60.

721,200. SYNDAN. Scientific Design Company, Inc. SN 101,128. Pub. 6–27–61. Filed 7–19–60.

721,201. HERKOL. Norda Essential Oil & Chemical Company, Inc. SN 101,569. Pub. 3–21–61. Filed 7–27–60.

721,202. THIOSPERSE. American Cyanamid Company. SN 102,166. Pub. 6–27–61. Filed 8–8–60.

721,203. PERMA GLAZE AND DESIGN. Perma-Cement Products of America, Incorporated. SN 105,301. Pub. 6–27–61. Filed 9–27–60.

721,204. PROOF. M.F.A. Oil Company. SN 106,614. Pub. 6–20–61. Filed 10–18–60.

721,205. CHLOREGAL. Geigy Chemical Corporation. SN 107,006. Pub. 6–27–61. Filed 10–24–60.

721,206. DOUBLE ARROW DESIGN. Vulcan Materials Company, d.b.a. Frontier Chemical Company. SN 107,086. Pub. 6–27–61. Filed 10–24–60.

721,207. WESTVACO. West Virginia Pulp and Paper Company. SN 108,423. Pub. 6–27–61. Filed 11–14–60.

721,208. TRI-ETHANE. Pittsburgh Plate Glass Company, assignee of Columbia-Southern Chemical Corporation. SN 110,930. Pub. 6–27–61. Filed 12–28–60.

Class 8 — Smokers' Articles, Not Including Tobacco Products

721,209. TRAYGAY. American Greetings Corporation. SN 91,903. Pub. 6–27–61. Filed 3–1–60.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

721,210. TROJAN EXPLOSIVES AND DESIGN. Trojan Powder Company. SN 99,467. Pub. 6–27–61. Filed 6–21–60.

721,211. LYMAN. The Lyman Gun Sight Corporation. SN 101,561. Pub. 6–27–61. Filed 7–27–60.

Class 10 — Fertilizers

721,212. NATURE'S WAY. Fred A. Veith. SN 97,269. Pub. 6–27–61. Filed 5–16–60.

721,213. PEARL-E-PEAT. Tennessee Products & Chemical Corporation. SN 97,965. Pub. 6–27–61. Filed 5–26–60.

Class 11 — Inks and Inking Materials

721,214. MONROE. Grady & Neary Ink Co. SN 88,664. Pub. 6–27–61. Filed 1–8–60.

721,215. COBAN-X. Central Compounding Company. SN 90,820. Pub. 6–27–61. Filed 3–31–61.

Class 12 — Construction Materials

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,216. STRONGBORD. Johns-Manville Corporation. SN 85,668. Pub. 6–27–61. Filed 11–19–59.

721,217. SYMBOL (RING AND EXTENDED RADII). Shenango China, Inc. SN 97,578. Pub. 6–27–61. Filed 5–20–60.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,218. BUCKS COUNTY PROVINCIAL. Bucks County Provincial, Inc. SN 99,289. Pub. 6–27–61. Filed 6–20–60.

721,219. FANCIFUL MARINE UNIFORMED FIGURE. Plastic Products Corporation. SN 105,303. Pub. 6–27–61. Filed 9–27–60.

721,220. CB. Hydril Company. SN 105,645. Pub. 6–27–61. Filed 10–3–60.

721,221. CS. Hydril Company. SN 108,000. Pub. 6–27–61. Filed 11–7–60.

721,222. KOVE-PLEX. Cardinal Manufacturing Corporation. SN 110,927. Pub. 6–27–61. Filed 12–28–60.

Class 14 — Metals and Metal Castings and Forgings

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,223. FERRALIUM. Langley Alloys Limited. SN 93,614. Pub. 4–11–61. Filed 3–24–60.

721,224. PORCEGLAZE. Monarch Aluminum Mfg. Company. SN 97,229. Pub. 6–27–61. Filed 5–16–60.

721,225. VANADIUM TYPE H. Vanadium-Alloys Steel Company. SN 97,346. Pub. 6–27–61. Filed 5–17–60.

721,226. VANADIUM TYPE K. Vanadium-Alloys Steel Company. SN 97,347. Pub. 6–27–61. Filed 5–17–60.

721,227. ECONO-PAC. Continental Steel Corporation. SN 108,029. Pub. 6–27–61. Filed 11–8–60.

Class 15 — Oils and Greases

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

Class 16 — Protective and Decorative Coatings

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,228. COLOR-MIST. Chemsol Corporation. SN 98,057. Pub. 6–27–61. Filed 5–31–60.

721,229. TORPEDO. British Paints Limited. SN 107,174. Pub. 6–27–61. Filed 10–26–60.

721,230. EPILUX. British Paints Limited. SN 107,639. Pub. 6–27–61. Filed 11–2–60.

Class 17 — Tobacco Products

721,231. MICROPORE. P. Lorillard Company. SN 77,119. Pub. 6–27–61. Filed 7–6–59.

Class 18 — Medicines and Pharmaceutical Preparations

721,232. VITA-LANE. La Lanne Incorporated. SN 83,801. Pub. 6–27–61. Filed 10–22–59.

721,233. UPEPTOID-B. Ubiotica Corporation. SN 84,259. Pub. 6–27–61. Filed 10–29–59.

721,234. UPEPTOID-A. Ubiotica Corporation. SN 84,260. Pub. 6–27–61. Filed 10–29–59.

721,235. UNOID-A. Ubiotica Corporation. SN 84,261. Pub. 6–27–61. Filed 10–29–59.

721,236. UPNEOID-C. Ubiotica Corporation. SN 84,262. Pub. 6–27–61. Filed 10–29–59.

721,237. UTROPHOID-C. Ubiotica Corporation. SN 84,263. Pub. 6–27–61. Filed 10–29–59.

721,238. UPNEOID-A. Ubiotica Corporation. SN 84,264. Pub. 6–27–61. Filed 10–29–59.

721,239. UMORPHOID-A. Ubiotica Corporation. SN 84,266. Pub. 6–27–61. Filed 10–29–59.

721,240. SULMABERON. C. H. Boehringer Sohn. SN 103,260. Pub. 6–27–61. Filed 8–23–60.

721,241. FOAMICIN. Block Drug Company, Inc., d.b.a. The Foamicin Company. SN 115,577. Pub. 6–27–61. Filed 3–14–61.

721,242. EPIMYCIN. Delta Drug Corporation. SN 116,293. Pub. 6–27–61. Filed 3–23–61.

Class 19 — Vehicles

721,243. IMPERIAL MOBILE HOMES AND DESIGN. Stanley N. Lewis. SN 94,782. Pub. 6–27–61. Filed 4–11–60.

721,244. VISTA-VISOR. Vista-Visor Inc. SN 101,586. Pub. 6–27–61. Filed 7–27–60.

721,245. KING KART. D.T.M. Engineering, Inc. SN 104,021. Pub. 6–27–61. Filed 9–7–60.

721,246. SNO-TRAVELER. Polaris Industries, Inc. SN 112,219. Pub. 6–27–61. Filed 2–1–61.

721,247. OWENS. Brunswick Corporation. SN 112,944. Pub. 6–27–61. Filed 2–2–61.

721,248. NICAD. Gould-National Batteries, Inc. SN 50,480. Pub. 1–20–59. Filed 4–28–58.

Class 21 — Electrical Apparatus, Machines, and Supplies

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,249. CROWN AND FANCIFUL SHIELD DESIGN. Packard-Bell Electronics Corporation. SN 60,623. Pub. 6–27–61. Filed 10–14–58.

721,250. MONOGRAM. Radio Corporation of America. SN 70,944. Pub. 10–13–59. Filed 4–6–59.

721,251. FE FIDELITY ENGINEERS AND DESIGN. Hornstein Photo Sales, Inc. SN 74,312. Pub. 6–27–61. Filed 5–22–59.

721,252. NAVCO. Navco, Inc. SN 91,617. Pub. 6–27–61. Filed 2–25–60.

721,253. RAZ-A DAPTA AND DESIGN. Todd Electric Company, Inc. SN 96,290. Pub. 11–8–60. Filed 5–2–60.

721,254. SEMCOR AND REPRESENTATION OF FULL WAVE LOGOTYPE. U.S. Semiconductor Products, Inc., assignee of United Industrial Corporation. SN 99,259. Pub. 6–27–61. Filed 6–17–60.

721,255. ONONDAGA ELECTRONICS AND DESIGN. Speer Carbon Company. SN 100,166. Pub. 6–27–61. Filed 7–1–60.

721,256. DURACLAD. Electric Machinery Mfg. Company. SN 103,714. Pub. 4–25–61. Filed 8–31–60.

721,257. DURA-CLAD. Aladdin Industries, Incorporated. SN 105,589. Pub. 4–25–61. Filed 10–3–60.

721,258. STAN-PAC. Motorola, Inc. SN 105,655. Pub. 4–11–61. Filed 10–3–60.

721,259. TOWNE. The Yale & Towne Manufacturing Company. SN 108,105. Pub. 6–27–61. Filed 11–8–60.

721,260. THERMOFIT. Guy L. Stevens, d.b.a. Groove-Rite Tool Company. SN 110,292. Pub. 6–27–61. Filed 12–15–60.

721,261. PERFECTION THRU RESEARCH AND DESIGN. The Rauland Corporation. SN 110,788. Pub. 6–27–61. Filed 12–23–60.

721,262. PACKARD BELL. Packard-Bell Electronics Corporation. SN 111,212. Pub. 6–27–61. Filed 1–3–61.

721,263. CONTIPS. Instrument Specialties Company, Inc. SN 111,404. Pub. 6–27–61. Filed 1–6–61.

721,264. ROYAL. Slumberest Company. SN 111,438. Pub. 6–27–61. Filed 1–6–61.

721,265. MADREC. Lockheed Aircraft Corporation. SN 111,515. Pub. 6–27–61. Filed 1–9–61.

Class 22 — Games, Toys, and Sporting Goods

721,266. SIGHT-O. Incentive Ideas, Inc. SN 94,166. Pub. 6–27–61. Filed 4–1–60.

721,267. JIFAROO. The Procter & Gamble Company. SN 99,091. Pub. 6–27–61. Filed 6–15–60.

721,268. CORVETTE 37. Commerce-Pacific, Inc. SN 104,376. Pub. 6–27–61. Filed 9–13–60.

721,269. RUSSIAN HOOK. Best Tackle Manufacturing Co. SN 105,619. Pub. 6–27–61. Filed 10–3–60.

721,270. AMERESE. American-Japanese Export Import Corporation. SN 107,098. Pub. 6–27–61. Filed 10–25–60.

721,271. KINDER. Sifo Company. SN 111,016. Pub. 6–27–61. Filed 12–29–60.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,272. BREHMER LEIPZIG POLYGRAPH AND DESIGN. VEB Leipziger Buchbindereimaschinenwerk, by change of name from VEB Falz- und Heftmaschinenwerk Leipzig. SN 81,032. Pub. 6–27–61. Filed 9–8–59.

721,273. THE MASTER. Bissell Inc. SN 82,472. Pub. 6–27–61. Filed 10–1–59.

721,274. BAKAN. Cook Chemical Company. SN 91,348. Pub. 6–27–61. Filed 2–23–60.

721,275. PERFECTROL. Engineering Sales Corporation. SN 94,057. Pub. 6–27–61. Filed 3–31–60.

721,276. "SAFE-T-GRIP." Ideal Industries, Inc. SN 98,220. Pub. 6–27–61. Filed 6–1–60.

721,277. SIMEON L. & GEORGE H. ROGERS COMPANY STAINLESS. Oneida Ltd. SN 98,517. Pub. 6–27–61. Filed 6–6–60.

721,278. ALMAR. Midland Products Co. SN 98,998. Pub. 6–27–61. Filed 6–14–60.

721,279. DIAL-A-BREAKER. Kennametal, Inc. SN 101,877. Pub. 6–27–61. Filed 8–2–60.

721,280. LODDING. Lodding Engineering Corporation. SN 106,612. Pub. 6–27–61. Filed 10–18–60.

721,281. WISS CREST. J. Wiss & Sons Co. SN 109,540. Pub. 6–27–61. Filed 12–2–60.

721,282. DECOR. J. Wiss & Sons Co. SN 109,542. Pub. 6–27–61. Filed 12–2–60.

721,283. AGROMAT. Wandel Machine Co., Inc. SN 109,824. Pub. 6–27–61. Filed 12–7–60.

721,284. MUSTANG. Great Neck Saw Manufacturers, Inc. SN 110,330. Pub. 6–27–61. Filed 12–16–60.

721,285. HESSTON. Hesston Manufacturing Company, Inc. SN 110,437. Pub. 6–27–61. Filed 12–19–60.

721,286. THE NEWSBOY THAT NEVER SLEEPS. Publisher's Vending Services Inc. SN 110,782. Pub. 6–27–61. Filed 12–23–60.

721,287. READ-O-MAT. Publisher's Vending Services Inc. SN 110,783. Pub. 6–27–61. Filed 12–23–60.

721,288. THE NEWSBOY THAT NEVER SLEEPS READ-O-MAT-JUNIOR. Publisher's Vending Services Inc. SN 110,784. Pub. 6–27–61. Filed 12–23–60.

721,289. THE NEWSBOY THAT NEVER SLEEPS READ-O-MAT. Publisher's Vending Services Inc. SN 110,785. Pub. 6–27–61. Filed 12–23–60.

721,290. GRAYLINE. Wilson Jones Company. SN 111,568. Pub. 6–27–61. Filed 1–9–61.

721,291. GP AND DESIGN. General Packaging Equipment Co. SN 111,663. Pub. 6–27–61. Filed 1–11–61.

721,292. AHCO. Austin-Hastings Co., Inc. SN 111,844. Pub. 6–27–61. Filed 1–16–61.

721,293. GRIPRING. Waldes Kohinoor, Inc. SN 112,008. Pub. 6–27–61. Filed 1–17–61.

721,294. ROTA-BLAST. Hughes Tool Company. SN 112,266. Pub. 6–27–61. Filed 1–23–61.

721,295. MOCRAFT. Minneapolis-Moline Company. SN 112,288. Pub. 6–27–61. Filed 1–23–61.

Class 24 — Laundry Appliances and Machines

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,296. VEDETTE. Societe Surmelec, Société Anonyme. SN 105,770. Pub. 6–27–61. Filed 10–4–60.

Class 25 — Locks and Safes

721,297. TOWNE. The Yale and Towne Manufacturing Company. SN 108,106. Pub. 6–27–61. Filed 11–8–60.

Class 26 — Measuring and Scientific Appliances

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,298. REPRESENTATION OF GREEK LETTER OMEGA AND LETTER I. Hans Rutishauser, d.b.a. Omega Instrument Company. SN 28,287. Pub. 7–14–59. Filed 4–16–57.

721,299. AIRCRAFT ARMAMENTS INC. AND DESIGN. Aircraft Armaments, Inc. SN 59,941. Pub. 6–27–61. Filed 9–30–58.

721,300. SHIELD WITH PSI AND DESIGN. Pitchford Scientific Instruments Corporation. SN 67,241. Pub. 6–21–60. Filed 2–6–59.

721,301. AIR-DATA-MATIC. Specialties, Inc. SN 75,796. Pub. 3–29–60. Filed 6–15–59.

721,302. TEMP-O-LARM. Walter Kidde & Company, Inc., assignee of Kidde Ultrasonic & Detection Alarms, Inc. SN 76,574. Pub. 6–27–61. Filed 6–26–59.

721,303. FLOWCON. Daystrom, Incorporated. SN 91,077. Pub. 6–27–61. Filed 2–17–60.

721,304. NAVCO. Navco, Inc. SN 91,616. Pub. 6–27–61. Filed 2–25–60.

721,305. COSMAFORM. Precision-Cosmet Company, Inc., d.b.a. Precision Cosmet Company. SN 93,856. Pub. 6–27–61. Filed 3–28–60.

721,306. ROTAN. Tektronix, Inc. SN 97,141. Pub. 4–11–61. Filed 5–13–60.

721,307. DRAINOMETER. Standard Oil Company of California. SN 99,545. Pub. 6–27–61. Filed 6–22–60.

721,308. ROTRON. Rotron Manufacturing Co., Inc. SN 105,379. Pub. 6–27–61. Filed 9–28–60.

721,309. TRANSFER-A-MATIC. General Aniline & Film Corporation. SN 109,312. Pub. 6–27–61. Filed 11–30–60.

721,310. OMNIGUARD. McGraw-Edison Company. SN 110,454. Pub. 6–27–61. Filed 12–19–60.

Class 27 — Horological Instruments

721,311. BALLERINA. Elgin National Watch Company, assignee of Bradley Time Corporation. SN 109,769. Pub. 6–27–61. Filed 12–7–60.

721,312. ACTION PROOF. Bulova Watch Company, Inc. SN 110,975. Pub. 6–27–61. Filed 12–29–60.

Class 28 — Jewelry and Precious-Metal Ware

721,313. DIAMOND FLEX. Feature Ring Co., Inc. SN 106,890. Pub. 6–27–61. Filed 10–21–60.

721,314. W AND DESIGN. Wells Manufacturing Company. SN 107,716. Pub. 6–27–61. Filed 10–31–60.

721,315. NEWFLEX. Favre-Leuba Watch & Chronometer Co., Inc. SN 109,782. Pub. 6–27–61. Filed 12–7–60.

721,316. SEA MIST PEARLS AND DESIGN. Paul Morris. SN 109,888. Pub. 6–27–61. Filed 12–8–60.

721,317. ALBERT WEISS. Albert Weiss & Co., Inc. SN 109,926. Pub. 6–27–61. Filed 12–8–60.

721,318. LA VIE. La Vie Jewelry Corp. SN 110,448. Pub. 6–27–61. Filed 12–19–60.

Class 29 — Brooms, Brushes, and Dusters

721,319. WORKMASTER. Bissell Inc. SN 82,473. Pub. 6–27–61. Filed 10–1–59.

721,320. JANGALA. Mohawk Brush Company. SN 106,121. Pub. 6–27–61. Filed 10–10–60.

Class 31 — Filters and Refrigerators

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,321. BERKEFELD-FILTER AND DESIGN. Berkefeld-Filter Gesellschaft und Celler Filterwerke GmbH. SN 64,453. Pub. 11–10–59. Filed 12–17–58.

721,322. AVCOLD. Avco Corporation. SN 108,595. Pub. 6–27–61. Filed 11–17–60.

Class 32 — Furniture and Upholstery

721,323. COMFORT ANGLE. Antler Tool & Die Company. SN 97,364. Pub. 6–27–61. Filed 5–18–60.

721,324. SEQUENCE. Charak Furniture Company. SN 97,456. Pub. 6–27–61. Filed 5–19–60.

721,325. MARSEILLE. Bassett Furniture Industries, Inc. SN 98,620. Pub. 6–27–61. Filed 6–8–60.

721,326. WAVERLY. Bassett Furniture Industries, Inc. SN 98,623. Pub. 6–27–61. Filed 6–8–60.

721,327. CENTURA. Bassett Furniture Industries, Inc. SN 99,556. Pub. 6–27–61. Filed 6–23–60.

721,328. PLANAROUND. Bassett Furniture Industries, Inc. SN 99,557. Pub. 6–27–61. Filed 6–23–60.

721,329. RHAPSODY. Bassett Furniture Industries, Inc. SN 99,561. Pub. 6–27–61. Filed 6–23–60.

721,330. FD AND DESIGN. Furniture Dynamics, Inc. SN 111,136. Pub. 6–27–61. Filed 12–30–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,331. KA-BOB. Whirlpool Corporation. SN 102,715. Pub. 6–27–61. Filed 8–15–60.

721,332. ENDEX. Sunbeam Equipment Corporation. SN 106,659. Pub. 4–25–61. Filed 10–18–60.

721,333. INFRA-CHEF. B. Merritt, Inc. SN 109,610. Pub. 6–27–61. Filed 12–5–60.

721,334. MENU MAGIC AND DESIGN. Montgomery Ward & Co., Incorporated. SN 109,987. Pub. 6–27–61. Filed 12–9–60.

721,335. TWIST-O-SEAL. Electro-Therm, Inc. SN 110,145. Pub. 6–27–61. Filed 12–13–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

721,336. MAXIMAIRE. Dayco Corporation. SN 108,284. Pub. 6–27–61. Filed 11–14–60.

Class 36 — Musical Instruments and Supplies

721,337. FLEETWOOD ETC. AND DESIGN. Ravin Recording Inc. SN 104,478. Pub. 5–23–61. Filed 9–14–60.

Class 37 — Paper and Stationery

721,338. THRIFTLINE. Advertising Aids, Inc. SN 82,751. Pub. 6–27–61. Filed 10–6–59.

721,339. RAY-BAN. KVP Sutherland Paper Company. SN 94,303. Pub. 10–18–60. Filed 4–4–60.

721,340. MARKETTE. Eberhard Faber Inc. SN 106,704. Pub. 6–27–61. Filed 10–19–60.

721,341. WHITMAN AND DESIGN. Whitman Publishing Company. SN 108,930. Pub. 6–27–61. Filed 11–22–60.

721,342. HI-MEMORY. Hollingsworth & Vose Company. SN 112,618. Pub. 6–27–61. Filed 1–27–61.

721,343. DREAM STARS. A. J. Siris Products Corp. SN 112,640. Pub. 6–27–61. Filed 1–27–61.

721,344. KLINGKRAFT. West Virginia Pulp and Paper Company. SN 112,660. Pub. 6–27–61. Filed 1–27–61.

Class 38—Prints and Publications

721,345. NUMBERS IN COLOR. Cuisenaire Company of America Inc. SN 46,908. Pub. 6–27–61. Filed 3–3–58.

721,346. CUISENAIRE. Cuisenaire Company of America Inc. SN 46,910. Pub. 6–27–61. Filed 3–3–58.

721,347. INVESTOGRAPHS. Van Strum & Towne, Inc., assignee, by mesne assignments, from Edwin S. Quinn. SN 76,828. Pub. 6–27–61. Filed 6–30–59.

721,348. DATA-GUIDE. Data-Guide, Inc. SN 88,846. Pub. 5–9–61. Filed 1–12–60.

721,349. MEDICINE IN THE MAGAZINES. Ciba Pharmaceutical Products Inc. SN 89,646. Pub. 6–27–61. Filed 1–26–60.

721,350. BETTER HOMES & GARDENS ETC. Meredith Publishing Company. SN 91,820. Pub. 6–27–61. Filed 2–29–60.

721,351. JUMBLE—THAT SCRAMBLED WORD GAME. Chicago Tribune-New York News Syndicate, Inc. SN 96,669. Pub. 6–27–61. Filed 5–9–60.

721,352. EL AVANCE CRIOLLO. E. Menendez. SN 104,095. Pub. 6–27–61. Filed 9–8–60.

721,353. WHAT'S NEW IN PLANT-ENGINEERING EQUIPMENT AND DESIGN. Putman Publishing Company. SN 106,275. Pub. 6–27–61. Filed 10–12–60.

721,354. OBELISK AND ELECTRON ORBIT DESIGN. Van Valkenburgh, Nooger & Neville, Inc. SN 106,777. Pub. 6–27–61. Filed 10–19–60.

721,355. BETTER HOMES & GARDENS. Meredith Publishing Company. SN 107,030. Pub. 6–27–61. Filed 10–24–60.

721,356. WHITMAN AND DESIGN. Whitman Publishing Company. SN 108,931. Pub. 6–27–61. Filed 11–22–60.

Class 39—Clothing

721,357. THE BIG T. Trinity Hosiery Company, Inc. SN 73,527. Pub. 4–26–60. Filed 11–13–58.

721,358. HM AND DESIGN. Hank Mann, Inc. SN 77,213. Pub. 6–27–61. Filed 7–7–59.

721,359. PRINCESS APRONS AND DESIGN. J. L. Delisle Co., Inc. SN 92,971. Pub. 5–2–61. Filed 3–16–60

721,360. MONTE CARLO. U-Wan-A Wash Frocks, Inc. SN 99,975. Pub. 6–27–61. Filed 6–29–60.

721,361. MAGIC-FLEX. Excelsior Underwear, Inc. SN 102,751. Pub. 4–4–61. Filed 8–16–60.

721,362. DEBBI PETITE. Debbi Day, Inc. SN 103,108. Pub. 6–27–61. Filed 8–22–60.

721,363. LOLLI-JAMAS. Modern Globe, Inc. SN 106,625. Pub. 6–27–61. Filed 10–18–60.

721,364. THE BOOT HILL ROLL-UR-OWN AND DESIGN. Texas Harvest Hat Company. SN 106,769. Pub. 6–27–61. Filed 10–19–60.

721,365. MONTE CRISTO. Albert Turner & Company, Inc. SN 106,960. Pub. 6–27–61. Filed 10–21–60.

721,366. PLAYBILL. Joseph H. Cohen & Sons, Inc. SN 107,114. Pub. 6–27–61. Filed 10–25–60.

721,367. GLEN OAKS. Glen Oaks Manufacturing Company. SN 108,313. Pub. 6–27–61. Filed 11–14–60.

721,368. MISS BONNIE DOON. Alex Lee Wallau, Inc. SN 108,928. Pub. 6–27–61. Filed 11–22–60.

721,369. LONDON BEAU. La Salle Neckwear Company. SN 108,986. Pub. 6–27–61. Filed 11–23–60.

721,370. REST-O-SET. The Hercules Trouser Company. SN 109,063. Pub. 6–27–61. Filed 11–25–60.

721,371. "LADY BEV." Belk Stores Services, Inc. SN 109,465. Pub. 6–27–61. Filed 12–2–60.

721,372. PANTRIFIC. H. & M. Sportswear, Inc. SN 110,151. Pub. 6–27–61. Filed 12–13–60.

721,373. SHAPEMASTERS. Slim-Bilt, Inc. SN 113,244. Pub. 6–27–61. Filed 2–7–61.

Class 40—Fancy Goods, Furnishings, and Notions

721,374. TRUSTAY. Endsdown Company, Inc. SN 110,146. Pub. 6–27–61. Filed 12–13–60.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

721,375. MAGILAINE. David Crystal, Inc. SN 99,845. Pub. 6–27–61. Filed 6–28–60.

721,376. SEERSUCKER DOLL-UP. Cabin Crafts Inc. SN 110,736. Pub. 6–27–61. Filed 12–23–60.

721,377. SIENEAU. Fieldcrest Mills, Inc. SN 113,194. Pub. 6–27–61. Filed 2–7–61.

721,378. LANVEAU. Fieldcrest Mills, Inc. SN 113,195. Pub. 6–27–61. Filed 2–7–61.

721,379. BOUCHEAU. Fieldcrest Mills, Inc. SN 113,196. Pub. 6–27–61. Filed 2–7–61.

721,380. BIENTEAU. Fieldcrest Mills, Inc. SN 113,197. Pub. 6–27–61. Filed 2–7–61.

721,381. DANDEEN. Dan River Mills, Incorporated. SN 113,273. Pub. 6–27–61. Filed 2–8–61.

721,382. WARMSPUN. Chatham Manufacturing Company. SN 113,397. Pub. 6–27–61. Filed 2–10–61.

721,383. SUBLIME. Chatham Manufacturing Company. SN 113,398. Pub. 6–27–61. Filed 2–10–61.

Class 43—Thread and Yarn

721,384. LAMIKIN AND DESIGN. Waterman, Merrill, Largen & Co. SN 79,962. Pub. 5–9–61. Filed 8–20–59.

721,385. BERNHARD ALTMANN. The Bernhard Altmann Corporation. SN 102,991. Pub. 6–27–61. Filed 8–19–60.

Class 44—Dental, Medical, and Surgical Appliances

721,168. CONSOLIDATED CERTIFICATE. See Class 1.

721,386. STER-O-LETTE THRIFT KIT. Ster-O-Lette Co. SN 105,224. Pub. 6–27–61. Filed 9–26–60.

721,387. CROWNOMATIC. The William Getz Corporation. SN 110,275. Pub. 6–27–61. Filed 12–15–60.

721,388. K-T HOLDERS. Howard Randolph Holt, d.b.a. Kim-Tam Enterprises. SN 113,920. Pub. 6–27–61. Filed 2–17–61.

Class 45—Soft Drinks and Carbonated Waters

721,389. PENAFIEL. Manantiales Penafiel, S.A. SN 95,662. Pub. 6–27–61. Filed 12–22–60.

Class 46 — Foods and Ingredients of Foods

721,390. LUIGI'S. Napoli Restaurant, Inc. SN 45,593. Pub. 6–27–61. Filed 2–10–58.

721,391. VI-AD. Minnesota Rubber Company, assignee of Minnesota Rubber Properties, Inc., d.b.a. Carlson Farms. SN 69,427. Pub. 6–27–61. Filed 3–12–59.

721,392. VI-AD ETC. AND DESIGN. Minnesota Rubber Company, assignee of Minnesota Rubber Properties, Inc., d.b.a. Carlson Farms. SN 72,345. Pub. 6–27–61. Filed 4–27–59.

721,393. VI-AD. Minnesota Rubber Company, d.b.a. Carlson Farms. SN 87,570. Pub. 6–27–61. Filed 12–18–59.

721,394. VI-AD AND DESIGN. Minnesota Rubber Company, d.b.a. Carlson Farms. SN 87,571. Pub. 6–27–61. Filed 12–18–59.

721,395. VI-AD THE DIAMOND QUALITY EGG AND DESIGN. Minnesota Rubber Company, d.b.a. Carlson Farms. SN 87,572. Pub. 6–27–61. Filed 12–18–59

721,396. TRIPLE-R. The Robertson Corporation, d.b.a. Ewing Mill Co. SN 90,323. Pub. 6–27–61. Filed 2–4–60.

721,397. MJB AND DESIGN. M.J.B. Co. SN 95,297. Pub. 6–27–61. Filed 4–18–60.

721,398. KITCHEN PAL AND DESIGN. Valley City Milling Company. SN 95,656. Pub. 6–27–61. Filed 4–22–60.

721,399. SHUR-SEED. Klenzade Products, Incorporated. SN 97,400. Pub. 6–27–61. Filed 5–18–60.

721,400. CAREFREE. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 97,608. Pub. 6–27–61. Filed 5–23–60.

721,401. WESTERN CHEF. Ranchers Cotton Oil, d.b.a. Ranchers Cotton Oil Company. SN 98,611. Pub. 6–27–61. Filed 5–13–60.

721,402. BANAN-O. Salada-Shirriff-Horsey, Inc. SN 99,172. Pub. 6–27–61. Filed 6–16–60.

721,403. TARGET. United Biscuit Company of America. SN 100,318. Pub. 6–27–61. Filed 7–5–60.

721,404. A "BRODY" BIRD AND DESIGN. Reif & Brody, Inc. SN 100,641. Pub. 6–27–61. Filed 7–11–60.

721,405. NEW ORLEANS KITCHENS AND DESIGN. New Orleans Kitchens, Inc. SN 100,924. Pub. 6–27–61. Filed 7–15–60.

721,406. GOETZE'S ETC. AND DESIGN. Goetze's Candy Co., Inc. SN 101,257. Pub. 6–27–61. Filed 7–21–60.

721,407. REPRESENTATION OF A BABY'S HEAD. Mead Johnson & Company. SN 101,881. Pub. 6–27–61. Filed 8–2–60.

721,408. WHOLE COW AND DESIGN. Richard M. Schultz, d.b.a. Dick Schultz. SN 101,896. Pub. 6–27–61. Filed 8–2–60.

721,409. CUDAHY PURITAN AND DESIGN. The Cudahy Packing Company. SN 102,459. Pub. 6–27–61. Filed 8–11–60.

721,410. PROTO BLOX. Columbian Hog and Cattle Powder Company. SN 103,658. Pub. 6–27–61. Filed 8–30–60.

721,411. YERBA ENCANTA FLAVOR ENCHANTMENT. Frank Wertz, d.b.a. Mission Garden Products Co. SN 104,568. Pub. 6–27–61. Filed 9–15–60.

721,412. HAPPY KIDS. W. B. Roddenbery Co., Inc. SN 104,754. Pub. 6–27–61. Filed 9–19–60.

721,413. KRUN-CHEEZ. Sunshine Biscuits, Inc., d.b.a. Dickey Foods. SN 107,602. Pub. 6–27–61. Filed 11–1–60.

721,414. MAZOLA. Corn Products Company. SN 111,068. Pub. 6–27–61. Filed 12–30–60.

721,415. SWANK. Knapp-Sherrill Company. SN 112,464. Pub. 6–27–61. Filed 1–25–61.

Class 49 — Distilled Alcoholic Liquors

721,416. CLOSTER ETC. AND DESIGN. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei. SN 93,690. Pub. 6–6–61. Filed 3–25–60.

Class 50 — Merchandise Not Otherwise Classified

721,417. SAF-T-SAKE MESSAGE SENDER. Safety Sake Enterprises, Inc. SN 73,614. Pub. 6–27–61. Filed 5–13–59.

721,418. SAF-T-SAKE. Safety Sake Enterprises, Inc. SN 73,615. Pub. 6–27–61. Filed 5–13–59.

721,419. SAFE-T-FLEX. Safe-T Pacific Baking Company. SN 86,903. Pub. 6–7–60. Filed 12–8–59.

721,420. RYDEN AND DESIGN. Aktiebolaget A. W. Rydén. SN 91,580. Pub. 6–27–61. Filed 2–25–60.

721,421. SHOW-KIT. William H. Buck, d.b.a. Kit-Kraft. SN 93,758. Pub. 6–27–61. Filed 3–28–60.

721,422. ELECTRONIC-RODENT-REPELLER AND DESIGN. Otto Stader, d.b.a. Ardmore Specialties. SN 96,991. Pub. 6–27–61. Filed 5–12–60.

721,423. SERENDIPOGRAPH. Esphyr Slobodkina-Urquhart, d.b.a. Art Development Co. SN 98,213. Pub. 6–27–61. Filed 6–1–60.

Class 51 — Cosmetics and Toilet Preparations

721,424. MARK OF A MAN. Pioneer Industries, Inc. SN 80,920. Pub. 4–18–61. Filed 9–4–59.

721,425. ORBIT AND DESIGN. Lucente Enterprises, Inc. SN 82,517. Pub. 4–18–61. Filed 10–1–59.

721,426. SQUEAKY. Jane Wharton Mitten, d.b.a. Derm Laboratories. SN 83,814. Pub. 6–27–61. Filed 10–22–59.

721,427. TRESEMME. Alberto-Culver Company, by change of name and assignment from Lobco, Inc. SN 86,165. Pub. 6–27–61. Filed 11–27–59.

721,428. GENTLEMAN JIM AND DESIGN. Alfred A. Anthony. SN 88,893. Pub. 4–18–61. Filed 1–13–60.

721,429. PEARLESCENT. Roux Laboratories, Inc. SN 102,345. Pub. 6–20–61. Filed 8–9–60.

721,430. TUMBLEWEED. International Products Corporation. SN 105,167. Pub. 6–27–61. Filed 9–26–60.

721,431. PARFUM LORLE AND DESIGN. International Products Corporation. SN 105,168. Pub. 6–27–61. Filed 9–26–60.

Class 52 — Detergents and Soaps

721,432. SLUMBERLAND. Johnson & Johnson. SN 109,696. Pub. 6–27–61. Filed 12–6–60.

721,433. HYDRAZENE. National Detergents, Inc., d.b.a. National Cleaners Chemical Mfg. Co. SN 111,004. Pub. 6–27–61. Filed 12–29–60.

721,434. SILI-WICK. Superior Laboratories, Inc. SN 111,052. Pub. 6–27–61. Filed 12–27–60.

Service Marks

Class 100 — Miscellaneous

721,435. MARCH OF DIMES. The National Foundation. SN 94,908. Pub. 6–27–61. Filed 4–12–60.

721,436. NF AND DESIGN. The National Foundation. SN 94,909. Pub. 6–27–61. Filed 4–12–60.

721,437. REPRESENTATION OF ARTISTS' PALETTE. The Walker Studio, Inc. SN 98,040. Pub. 6–27–61. Filed 5–27–60.

Class 101 — Advertising and Business

721,438. LARG-O-CHROME. Chicago Color Laboratories, Inc. SN 51,171. Pub. 3–1–60. Filed 5–7–58.

721,439. LARG-O-COLOR. Chicago Color Laboratories, Inc. SN 51,172. Pub. 3–1–60. Filed 5–7–58.

721,440. SCIENTIFIC TECHNICAL LITERATURE RESEARCH AND DESIGN. Cyril W. Sernak, d.b.a. Patent Searching Service. SN 83,746. Pub. 6–27–61. Filed 10–21–59.

Class 104 — Communication

721,441. THE FRIENDLY VOICE OF TITUSVILLE AND NORTH BREVARD. WRMF, Inc. SN 90,599. Pub. 6–27–61. Filed 2–8–60.

Class 105 — Transportation and Storage

721,442. FLAG DESIGN. Fred. Olsen & Co. SN 80,913. Pub. 6–27–61. Filed 9–4–59.

Class 106 — Material Treatment

721,443. SUN-X. American Glass Tinting Corporation. SN 58,485. Pub. 6–16–59. Filed 9–8–58.

721,444. SONOSOLDER. Sonobond Corporation, assignee of Aeroprojects, Incorporated. SN 95,348. Pub. 6–27–61. Filed 4–19–60.

Collective Membership Marks

Class 200

721,445. GREEK LETTERS ALPHA, GAMMA AND DELTA. Alpha Gamma Delta Fraternity. SN 109,935. Pub. 6–27–61. Filed 12–9–60.

Certification Marks

Class B—Services

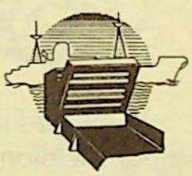
721,446. G.E.M. Motor Travel Services, Inc. SN 76,586. Pub. 5–23–61. Filed 6–26–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 19—Vehicles

721,447. MacGregor-Comarain, Paris (Seine), France. SN 81,914. Filed P.R. 9–23–59; Am. S.R. 4–19–61.



Priority claimed under Sec. 44(d) on French Reg. No. 481,383, dated June 26, 1959 (Seine); Natl. Inst. No. 130,470.

For Ships, Railroad Cars, Trucks, Hatch Covers, Removable Decks Inside of Shipholds, Masts, and Covers for Railroad Cars.

Class 22 — Games, Toys, and Sporting Goods

721,448. B. F. Gladding & Company, Inc., South Otselic, N.Y. SN 92,755. Filed P.R. 3–14–60; Am. S.R. 6–20–61.

SUPER

For Fishing Lines.
First use July 20, 1959.

721,449. American Doll & Toy Corporation, Brooklyn, N.Y. SN 93,652. Filed P.R. 3–25–60; Am. S.R. 6–28–61.

SPRA-BATH

For Doll's Bath Tubs.
First use Mar. 3, 1960.

721,450. American Doll & Toy Corporation, Brooklyn, N.Y. SN 93,653. Filed P.R. 3–25–60; Am. S.R. 6–28–61.

PLA-BATH

For Doll's Bath Tubs.
First use Mar. 3, 1960.

Class 38—Prints and Publications

721,451. Roger Preuss, d.b.a. Preuss Studio, Minneapolis, Minn. SN 89,457. Filed P.R. 1–21–60; Am. S.R. 7–5–61.

WILDLIFE OF AMERICA

For Calendars.
First use Nov. 15, 1956.

Class 45 — Soft Drinks and Carbonated Waters

721,452. Societe des Eaux Minerales de Contrexeville (Vosges), Paris, France. SN 92,504. Filed 3–9–60.

The drawing is lined for blue and pink. Owner of French Reg. No. 440,429, dated Mar. 24, 1954 (Seine); Natl. Inst. No. 31,983.
For Mineral Waters.

721,453. Societe des Eaux Minerales de Contrexeville (Vosges), Paris, France. SN 92,505. Filed 3–9–60.

The drawing is lined for blue and pink. Owner of French Reg. No. 440,430, dated Mar. 24, 1954 (Seine); Natl. Inst. No. 31,984.
For Mineral Waters.

Class 46 — Foods and Ingredients of Foods

721,454. Superior Tea & Coffee Co., Chicago, Ill. SN 54,112. Filed P.R. 6–23–58; Am. S.R. 7–21–60.

COFFEE!
with that
EXTRA GOODNESS
that brings
customers back

For Coffee.
First use May 26, 1958.

721,455. Southern Planters, Inc., Quitman, Ga. SN 74,904. Filed P.R. 6–1–59; Am. S.R. 7–7–61.

Lady Brooks

For Canned Vegetables.
First use Oct. 27, 1958.

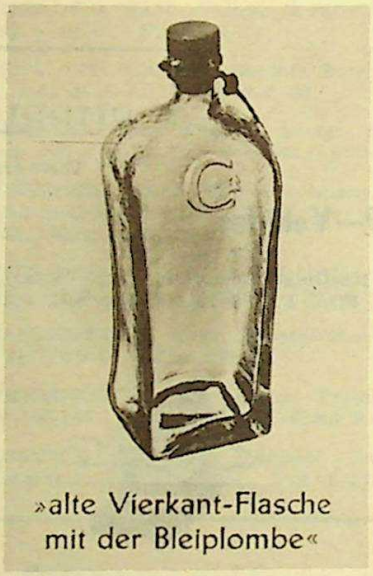
721,456. Perry H. Chipurnoi, Inc., New York, N.Y. SN 81,544. Filed P.R. 9–17–59; Am. S.R. 9–15–60.

"CHIPS,,
by
Chipurnoi

For Candy.
First use Aug. 25, 1959.

Class 47 — Wines

721,457. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. SN 93,576. Filed 1–24–61.



The translation of the German words appearing on the drawing is "old square bottle with lead seal." Owner of German Reg. No. 734,441, dated Mar. 7, 1960.
For Wines.

721,458. John Bardenheier Wine & Liquor Company, d.b.a. The Old Dublin Wine Company, St. Louis, Mo. SN 102,371. Filed P.R. 8–10–60; Am. S.R. 7–5–61.

THE SWEETEST
LITTLE WINE THE
VINEYARD EVER GREW

For Wine.
First use Sept. 10, 1959.

Class 49 — Distilled Alcoholic Liquors

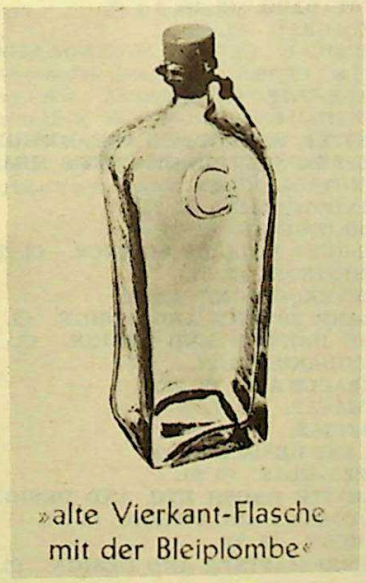
721,459. Arthur Bell & Sons Ltd., Perth, Scotland. SN 69,604. Filed P.R. 3–16–59; Am. S.R. 10–23–59.

The trademark comprises the package—namely, the bottle and the label thereon. Owner of U.S. Reg. Nos. 401,242, 684,528, and others.

For Scotch Whisky.

First use September 1954; in commerce September 1954; Dec. 13, 1933, as to "Bell's"; 1939 as to use of the square bottle and the words "Royal Vat."

721,460. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. SN 93,575. Filed 1–24–61.



The translation of the German words appearing on the drawing is "old square bottle with lead seal." Owner of German Reg. No. 734,441, dated Mar. 7, 1960.

For Brandies.

721,461. Edward Simpson & Co. Limited, London, England. SN 102,268. Filed 8–8–60.

Priority claimed under Sec. 44(d) on British Reg. No. 805,211, dated May 2, 1960.

For Gin.

721,462. The Savoy Hotel Limited, London, England. SN 103,199. Filed P.R. 8–22–60; Am. S.R. 6–10–61.

Owner of U.S. Reg. No. 659,124.

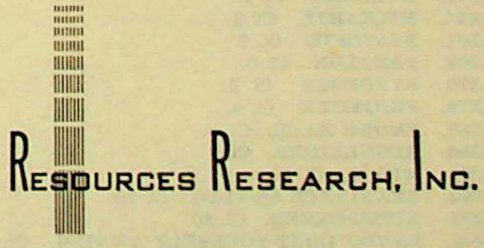
For Scotch Whisky.

First use on or about June 1, 1931; in commerce on or about Dec. 16, 1933.

Service Mark

Class 100 — Miscellaneous

721,463. Resources Research, Inc., Washington, D.C. SN 67,893. Filed P.R. 2–17–59; Am. S.R. 11–10–60.



The drawing is lined for red, but no claim is made for color.

For Engineering Services Relating to Biological, Chemical and Environmental Research.

First use Sept. 1, 1958.

TRADEMARK REGISTRATIONS RENEWED

20,339. O.K. AND DESIGN. Cl. 21. 11–10–1891.
144,544. GERMAN'S. Cl. 46. 7–12–21.
144,708. BREYERS AND DESIGN. Cl. 46. 7–19–21.
145,137. PEARLS OF WHEAT. Cl. 46. 7–26–21.
145,335. SUNBEAM. Cl. 21. 8–2–21.
145,630. GINGINOL AND DESIGN. Cl. 18. 8–16–21.
145,778. QUAKER STATE. Cl. 15. 8–16–21.
145,926. STERIL-SEAL. Cl. 46. 8–23–21.
145,987. ZERO. Cl. 46. 8–23–21.
146,388. PRIVATE STOCK. Cl. 48. 9–6–21.
146,396. CONQUEROR. Cl. 16. 9–6–21.
147,083. MOORE'S EMERALD OIL AND DESIGN. Cl. 18. 10–14–21.
147,576. ARMORCOTE. Cl. 16. 10–25–21.
147,747. PURITAN. Cl. 40. 11–1–21.
147,774. SANIWHITE. Cl. 35. 11–1–21.
147,826. ENZYMAZE. Cl. 46. 11–1–21.
147,893. BUTYN AND DESIGN. Cl. 18. 11–8–21.
148,068. STANFORD BRAND AND DESIGN. Cl. 46. 11–8–21.
148,347. OCTAGON DESIGN. Cl. 13. 11–15–21.
148,982. OCTAGON DESIGN. Cl. 14. 12–6–21.
149,046. RED TANG AND DESIGN. Cl. 23. 12–6–21.
150,275. THE CALIFORNIA CITROGRAPH. Cl. 38. 1–3–22.
150,563. SHAPIRO, BERNSTEIN & CO. INC. AND DESIGN. Cl. 38. 1–3–22.
150,746. GULF STREAM. Cl. 42. 1–10–22.
150,966. SHAPIRO, BERNSTEIN & CO., INC. Cl. 38. 1–10–22.
385,974. HYPER-VISCRA. Cl. 18. 3–25–41.
386,863. BEACHCOMBERS AND DESIGN. Cl. 49. 4–22–41.
388,100. CELASQUARE. Cl. 42. 6–10–41.
388,369. VULCAN. Cl. 9. 6–24–41.
388,791. SPLASH OF LIQUID DESIGN. Cl. 45. 7–8–41.
388,840. PROSPERITY. Cl. 24. 7–15–41.
388,991. THE WHISTLING OYSTER AND DESIGN. Cl. 33. 7–22–41.
389,093. BOVERT AND DESIGN. Cl. 10. 7–22–41.
389,106. BED OF ROSES. Cl. 51. 7–22–41.
389,225. LOCKERAP AND DESIGN. Cl. 37. 7–29–41.
389,269. REMCRAFT. Cl. 37. 7–29–41.
389,272. REMROCK. Cl. 37. 7–29–41.
389,429. AUSTALON. Cl. 44. 8–5–41.
389,587. NOODLEMAN. Cl. 46. 8–12–41.
389,588. DESIGN OF NOODLEMAN. Cl. 46. 8–12–41.
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392,609. BAND BOX. Cl. 37. 1–6–42.
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694,835. DEXTROID. Cl. 18. 3–22–60.
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609,351. NYLENKA. Cl. 1.
609,354. MILKARTN. Cl. 2.
609,367. STATOFIX. Cl. 6.
609,369. PAKALOR. Cl. 6.
609,370. SYNOFORM. Cl. 6.
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609,392. GRANULITE AG-SLAG. Cl. 10.
609,394. NITRO-GREEN. Cl. 10.
609,404. LANDO DO-IT-YOURSELF AWNING. Cl. 12.
609,408. AMVERLITE. Cl. 12.
609,411. PARKPORT. Cl. 12.
609,413. REPRESENTATION OF SHIELD. Cl. 14.
609,414. "ALNISI." Cl. 14.
609,417. TEX TEXT AND DESIGN. Cl. 16.
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609,423. MI-KEL AND DESIGN. Cl. 17.
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609,429. SUSTABARB. Cl. 18.
609,438. DELAGRAN. Cl. 18.
609,444. CYESICAP. Cl. 18.
609,451. TALS. Cl. 18.
609,453. CHEK-CHIP. Cl. 19.
609,454. AERIUS. Cl. 19.
609,456. HESTER SPORTSMAN AND DESIGN. Cl. 19.
609,459. REPRESENTATION OF CHEF'S HEAD. Cl. 21.
609,462. BINOTROL. Cl. 21.
609,463. WINDOWBRAIN. Cl. 21.
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609,496. PRECISE. Cl. 21.
609,498. DI AND DESIGN. Cl. 21.
609,499. SIZZ-L-GLAS. Cl. 21.
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609,505. MERRI MARINER AND DESIGN. Cl. 22.
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609,511. N.E.M. TOYS AND DESIGN. Cl. 22.
609,512. LIARS POKER. Cl. 22.
609,516. RAPIDO. Cl. 22.
609,520. TUBOPLAST. Cl. 23.
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609,548. FINON. Cl. 26.
609,550. CHUB-DEB. Cl. 26.
609,554. CHUB-TEEN. Cl. 26.
609,566. MINOLTACORD. Cl. 26.
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609,646. TWILLAREES. Cl. 39.
609,647. TOCKS. Cl. 39.
609,650. WEYLIN. Cl. 39.
609,651. RINKONO. Cl. 39.
609,652. VEST-O-MATIC. Cl. 39.
609,653. FEATHER LOCK. Cl. 39.
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609,671. S-PORT. Cl. 46.
609,674. ADDINGTON'S AND DESIGN. Cl. 46.
609,677. ACE OF HEARTS AND DESIGN. Cl. 46.
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609,679. LUXURIA BRAND. Cl. 46.
609,680. ANA GOLD. Cl. 46.
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609,683. MUNCHIES. Cl. 46.
609,685. PRIDE OF UTAH. Cl. 46.
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609,701. SMP CO. Cl. 50.
609,703. POWER GLO AND DESIGN. Cl. 50.
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609,722. SAFE-T-STRIP. Cl. 52.
609,725. THE "Q" TEST. Cl. 100.
609,728. FRIENDLY ADVERTISING. Cl. 101.
609,729. FRIENDLY ADVERTISING SINCE 1888. Cl. 101.
609,730. GRAVER AND DESIGN. Cl. 103.
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609,736. POP-KANS. Cl. 2.
609,743. "BEAMED POWER-PERFECT MATCH." Cl. 21.
609,746. BUTCHER SHOP QUARTETTE AND DESIGN. Cl. 46.

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627,468. "HA-LUSH-KA." Cl. 46. 5-22-56.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

22,266. STORM'S. Cl. 18. 12-27-1892. James Scott Robinson. Mary A. Robinson, Memphis, Tenn. Amended: In the certificate, lines 9 and 10, in the heading, and in the statement, lines 6 and 7 and 37 and 38, "medicinal preparation for diseases of the liver, stomach, or bowels" is deleted and *laxative* is inserted, and in the statement, lines 10 through 29 and lines 53 through 59 are deleted, and the drawing is amended to appear:

STORM'S

615,702. VILLAGE BLACKSMITH. Cl. 23. 11-8-55. The Village Blacksmith Company. General Metals Corporation, Watertown, Wis. Amended: In the statement, column 2, lines 1 through 5, "and for cutlery—namely, kitchen, table, barbecue and butcher knives; cleavers; steels; spatulas; meat slicers; block scrapers; hamburger turners; and barbecue, kitchen and table forks" is deleted.

699,617. NALGON. Cl. 1. 6-21-60. Nalge Company, Inc. The Nalge Co., Inc., Rochester, N.Y. Amended: In the statement, column 1, after line 1, , *now by change of name The Nalge Co., Inc.* is inserted.

701,346. NALGENE. Cl. 26. 7-19-60. Nalge Company, Inc. The Nalge Co., Inc., Rochester, N.Y. Amended: In the statement, column 1, after line 1, , *now by change of name The Nalge Co., Inc.* is inserted.

710,565. NALGE. Cl. 26. 1-31-61. Nalge Company, Inc. The Nalge Co., Inc., Rochester, N.Y. Amended: In the statement, column 1, after line 1, , *now by change of name The Nalge Co., Inc.* is inserted.

718,701. EXECUTIVE INN. Cl. 100. 7-18-61. Executive House Motor Hotels Corporation, Cincinnati, Ohio. Corrected: In the statement, column 2, line 6, "689,734" should be deleted and *698,734* should be inserted.

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(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A.B. Metal Products Ltd., Abercynon, Glamorgan, Wales. 609,489, canc. Cl. 21.
Abbott Laboratories, North Chicago, Ill. 147,893, ren. 9–12–61. Cl. 18.
Action Bag & Envelope Co., Inc., Brooklyn, N.Y. 721,183–4, pub. 6–27–61. Cl. 2.
Advance Pattern Co., Inc., New York, N.Y. 609,550, canc. Cl. 26.
Advance Pattern Co., Inc., New York, N.Y. 609,554, canc. Cl. 26.
Advertising Aids, Inc., Seattle, Wash. 721,338, pub. 6–27–61. Cl. 37.
Aeroprojects, Inc. : *See*—
Sonobond Corp.
Ahlers, Carl, to Carl Ahlers Inc., New York, N.Y. 145,926, ren. 9–12–61. Cl. 46.
Ahlers, Carl, Inc. : *See*—
Ahlers, Carl.
Air Baby Inc., New York, N.Y. 609,709, canc. Cl. 50.
Aircraft Armaments, Inc., Cockeysville, Md. 721,299, pub. 6–27–61. Cl. 26.
Aktiebolaget A.W. Ryden, Nybro, Sweden. 721,420, pub. 6–27–61. Cl. 50.
Aktiebolaget Jonkoping-Vulcan : *See*—
Jonkopings Och Vulcans Tandsticksfabriksaktiebolag.
Aladdin Industries, Inc., Nashville, Tenn. 721,257, pub. 4–25–61. Cl. 21.
Alarm Service, Inc., Chicago, Ill. 609,486, canc. Cl. 21.
Alberto-Culver Co., Melrose Park, by change of name from Lobco, Inc., Chicago, Ill. 721,427, pub. 6–27–61. Cl. 51.
Alco Products, Inc. : *See*—
American Locomotive Co.
Alpha Gamma Delta Fraternity, Chatham, N.J. 721,445, pub. 6–27–61. Cl. 200.
Altmann, Bernhard, Corp., The, New York, N.Y. 721,385, pub. 6–27–61. Cl. 43.
American Can Co., New York, N.Y. 721,193, pub. 6–27–61. Cl. 5.
American Collo Corp. : *See*—
Seligmann, Otto.
American Cyanamid Co., New York, N.Y. 609,444, canc. Cl. 18.
American Cyanamid Co., New York, N.Y. 721,202, pub. 6–27–61. Cl. 6.
American Doll & Toy Corp., Brooklyn, N.Y. 721,449–50. Cl. 22.
American Enka Corp., Enka, N.C. 609,351, canc. Cl. 1.
American Glass Tinting Corp., Houston, Tex. 721,443, pub. 6–16–59. Cl. 106.
American Greetings Corp., Cleveland, Ohio. 721,209, pub. 6–27–61. Cl. 8.
American Historical Co., Inc., The, New York, N.Y. 609,611, canc. Cl. 37.
American-Japanese Export Import Corp., Houston, Tex. 721,270, pub. 6–27–61. Cl. 22.
American Locomotive Co., now by change of name Alco Products, Inc., New York, N.Y. 609,527, canc. Cl. 23.
American MCW Dispensers, Inc., Dallas, Tex. 721,187, pub. 6–27–61. Cl. 2.
American Pin Co., The, to Scovill Mfg. Co., Waterbury, Conn. 147,747, ren. 9–12–61. Cl. 40.
American Screen Products Co., Miami, Fla. 609,487, canc. Cl. 21.
American Steel Foundries, Chicago, Ill. 148,347, ren. 9–12–61. Cl. 13.
American Steel Foundries, Chicago, Ill. 148,982, ren. 9–12–61. Cl. 14.
American Vermiculite Corp., New York, N.Y. 609,408, canc. Cl. 12.
Anderson, Warren R., d.b.a. Papaya Food Products Co., Los Angeles, Calif. 609,674, canc. Cl. 46.
Anthony, Alfred A., Westport, Conn. 721,428, pub. 4–18–61. Cl. 51.
Antler Tool & Die Co., Grand Rapids, Mich. 721,323, pub. 6–27–61. Cl. 32.
Archer-Daniels-Midland Co., Minneapolis, Minn. 721,172, pub. 6–27–61. Cl. 1.
Archer-Daniels-Midland Co., Minneapolis, Minn. 721,178–9, pub. 6–27–61. Cl. 1.
Ardmore Specialties : *See*—
Stader, Otto.
Armour and Co., from Armour and Co., Chicago, Ill. 721,164, pub. 6–27–61. Cl. 1.
Armour and Co., from Armour and Co., Chicago, Ill. 721,400, pub. 6–27–61. Cl. 46.
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Art Development Co. : *See*—
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Associated British-Pathe Ltd., London, England. 609,369, canc. Cl. 6.
Atlas Ozone Mfg. Co. : *See*—
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Austenal Laboratories, Inc., to Howe Sound Co., New York, N.Y. 389,429, ren. 9–12–61. Cl. 44.
Austenal Laboratories, Inc., to Howe Sound Co., New York, N.Y. 389,621, ren. 9–12–61. Cl. 14.
Austin-Hastings Co., Inc., Cambridge, Mass. 721,292, pub. 6–27–61. Cl. 23.
Avco Corp., Nashville, Tenn. 721,322, pub. 6–27–61. Cl. 31.
Baker, Walter, & Co., Ltd., Boston, Mass., to General Foods Corp., White Plains, N.Y. 144,544, ren. 9–12–61. Cl. 46.
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Bamberger, L., & Co., Newark, N.J., to R. H. Macy & Co., Inc., New York, N.Y. 389,818, ren. 9–12–61. Cl. 51.
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Beckwith-Arden Inc., Watertown, Mass. 721,166, pub. 6–27–61. Cl. 1.
Belk Stores Services, Inc., Charlotte, N.C. 721,371, pub. 6–27–61. Cl. 39.
Bell, Arthur, & Sons Ltd., Perth, Scotland. 721,459. Cl. 49.
Benson-Nuen Laboratories, Inc., New York, N.Y. 609,450, canc. Cl. 18.
Berkefeld-Filter Gesellschaft und Celler Filterwerke GmbH., Hannover, Germany. 721,321, pub. 11–10–59. Cl. 31.
Best Tackle Mfg. Co., Sebewaing, Mich. 721,269, pub. 6–27–61. Cl. 22.
Bissell Inc., Grand Rapids, Mich. 721,273, pub. 6–27–61. Cl. 23.
Bissell Inc., Grand Rapids, Mich. 721,319, pub. 6–27–61. Cl. 29.
Block Drug Co., Inc., d.b.a. The Foamicin Co., Jersey City, N.J. 721,241, pub. 6–27–61. Cl. 18.
Blodgett, G. S., Co., Inc., The, Burlington, Vt. 391,399, ren. 9–12–61. Cl. 34.
Blue Ridge Manufacturers, Inc., Baltimore, Md. 609,646, canc. Cl. 39.
Boehringer, C. H., Sohn, Ingelheim (Rhine), Germany. 721,240, pub. 6–27–61. Cl. 18.
Bostwick Laboratories, Inc., Bridgeport, Conn. 609,722, canc. Cl. 52.
Boyle, John, & Co., Inc., New York, N.Y. 150,746, ren. 9–12–61. Cl. 42.
Bradley Time Corp. : *See*—
Elgin National Watch Co.
Bresee, Francys C., administratrix of the estate of Fred Bresee, Jr., d.b.a. Balab, Burlingame, Calif. 721,196, pub. 6–27–61. Cl. 6.
Bresee, Fred, Jr. : *See*—
Bresee, Francys C.
Breyer Ice Cream Co., Philadelphia, Pa., to National Dairy Products Corp., New York, N.Y. 144,708, ren. 9–12–61. Cl. 46.
British Paints Ltd., Newcastle-on-Tyne, England. 721,229–30, pub. 6–27–61. Cl. 16.
Brunswick Corp., Chicago, Ill. 721,247, pub. 6–27–61. Cl. 19.
Buck, William H., d.b.a. Kit-Kraft, Lexington, Mass. 721,421, pub. 6–27–61. Cl. 50.
Bucks County Provincial, Inc., Palm Beach, Fla. 721,218, pub. 6–27–61. Cl. 13.
Bulova Watch Co., Inc., Flushing, N.Y. 721,312, pub. 6–27–61. Cl. 27.
Burlington Industries, Inc. : *See*—
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Burlington Mills Corp., to Burlington Industries, Inc., Greensboro, N.C. 391,838, ren. 9–12–61. Cl. 39.
Burton-Dixie Corp., Pittsburgh, Pa. 326,520, canc. Cl. 3.
Butcher Shop Quartette, Inc., New York, N.Y. 609,746, canc. Cl. 46.
Cabin Crafts Inc., Dalton, Ga. 721,376, pub. 6–27–61. Cl. 42.
Cabot Corp., Boston, Mass. 721,169, pub. 6–27–61. Cl. 1.
California Citrograph Publishing Co., Ltd., Los Angeles, Calif. 150,275, ren. 9–12–61. Cl. 38.
California Spray-Chemical Corp., Wilmington, Del. 609,391, canc. Cl. 10.
Cardinal Mfg. Corp., Shreveport, La. 721,222, pub. 6–27–61. Cl. 13.
Carlson Farms : *See*—
Minnesota Rubber Co.
Carmac Co. : *See*—
Mirus, Gilbert B.
Carnation Co. : *See*—
MacVeagh, Franklin, & Co.
Celanese Corp. of America, New York, N.Y. 388,100, ren. 9–12–61. Cl. 42.
Central Compounding Co., Chicago, Ill. 721,215, pub. 6–27–61. Cl. 11.
Charak Furniture Co., Boston, Mass. 721,324, pub. 6–27–61. Cl. 32.
Chatham Mfg. Co., Elkin, N.C. 721,382–3, pub. 6–27–61. Cl. 42.
Chemsol Corp., Chicago, Ill. 721,228, pub. 6–27–61. Cl. 16.
Chicago Color Laboratories, Inc., Chicago, Ill. 721,438–9, pub. 3–1–60. Cl. 101.
Chicago Flexible Shaft Co., to Sunbeam Corp., Chicago, Ill. 145,335, ren. 9–12–61. Cl. 21.

Chicago Tribune-New York News Syndicate, Inc., New York, N.Y. 721,351, pub. 6–27–61. Cl. 38.
Chipurnoi, Perry H., Inc., New York, N.Y. 721,456. Cl. 46.
Chiyoda Kogaku Seiko Kabushiki Kaisha, Higashi-ku, Osaka, Japan. 609,566, canc. Cl. 26.
Ciba Pharmaceutical Products Inc., Summit, N.J. 721,349, pub. 6–27–61. Cl. 38.
Clements, Fred W., to International Laboratories, Inc. Rochester, N. Y. 145,630, ren. 9–12–61. Cl. 18.
Clements, Fred W., to International Laboratories, Inc., Rochester, N.Y. 147,083, ren. 9–12–61. Cl. 18.
Clevite Corp., Cleveland, Ohio. 609,500, canc. Cl. 21.
Cluett, Peabody & Co., Inc., New York, N.Y. 390,700, ren. 9–12–61. Cl. 39.
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Cohen, Joseph H., & Sons, Inc., New York, N.Y. 721,366, pub. 6–27–61. Cl. 39.
Colgate-Palmolive Co., New York, N.Y. 721,192, 6–27–61, Cl. 4.
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Columbian Hog and Cattle Powder Co., Kansas City, Mo. 721,410, pub. 6–27–61. Cl. 46.
Commerce-Pacific, Inc., Los Angeles, Calif. 721,268, pub. 6–27–61. Cl. 22.
Container Development Corp., Watertown, Wis. 721,190, pub. 6–27–61. Cl. 2.
Continental Can Co., Inc., New York, N.Y. 721,186, pub. 6–27–61. Cl. 2.
Continental Steel Corp., Kokomo, Ind. 721,227, pub. 6–27–61. Cl. 14.
Cook Chemical Co., Kansas City, Mo. 721,274, pub. 6–27–61. Cl. 23.
Cook Paint & Varnish Co., to Cook Paint & Varnish Co., Kansas City, Mo. 147,576, ren. 9–12–61. Cl. 16.
Corn Products Co., New York, N.Y. 721,414, pub. 6–27–61. Cl. 46.
Cotton Belt, Inc., Pinetops, N.C. 609,593, canc. Cl. 32.
Crown Zellerbach Corp., San Francisco, Calif. 721,173, pub. 6–27–61. Cl. 1.
Crown Zellerbach Corp., d.b.a. Western Waxed Paper Co., division of Crown Zellerbach Corp., to Crown Zellerbach Corp., San Francisco, Calif., and North Portland, Oreg. 389,225, ren. 9–12–61. Cl. 37.
Crystal, David, Inc., New York, N.Y. 721,375, pub. 6–27–61. Cl. 42.
Cuban Cigar Co., Joplin, Mo. 609,423, canc. Cl. 17.
Cudahy Packing Co., The, Omaha, Nebr. 721,409, pub. 6–27–61. Cl. 46.
Cuisenaire Co. of America, Inc., New York, N.Y. 721,345–6, pub. 6–27–61. Cl. 38.
D.T.M. Engineering, Inc., Milwaukee, Wis. 721,245, pub. 6–27–61. Cl. 19.
Daily, Robert E., Seattle, Wash. 609,512, canc. Cl. 22.
Dan River Mills, Inc., Danville, Va. 721,381, pub. 6–27–61. Cl. 42.
Daniels, John E., Leather Co., Boston, Mass. 721,167, pub. 6–27–61. Cl. 1.
Data-Guide, Inc., Flushing, N.Y. 721,348, pub. 5–9–61. Cl. 38.
Dayco Corp., Dayton, Ohio. 721,336, pub. 6–27–61. Cl. 35.
Daystrom, Inc., Elizabeth, N.J. 609,498, canc. Cl. 21.
Daystrom, Inc., Murray Hills, N.J. 721,303, pub. 6–27–61. Cl. 26.
Debbi Day, Inc., New York, N.Y. 721,362, pub. 6–27–61. Cl. 39.
Delisle, J. L., Co., Inc., Fitchburg, Mass. 721,359, pub. 5–2–61. Cl. 39.
Delta Drug Corp., Jacksonville, Fla. 721,242, pub. 6–27–61. Cl. 18.
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Dickey Foods: *See*— Sunshine Biscuits, Inc.
Doniger, David D., & Co. Inc., New York, N.Y. 609,655, canc. Cl. 39.
Dormeyer Corp., Chicago, Ill. 609,459, canc. Cl. 21.
Doscher, Gerard H., d.b.a. The Granulite Co., Chicago, Ill. 609,392, canc. Cl. 10.
Dublin Wine Co., The: *See*— Bardenheier, John, Wine & Liquor Co.
Dumari Textile Co., Inc., New York, N.Y. 609,651, canc. Cl. 39.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 721,175, pub. 6–7–61. Cl. 1.
Durham Chemicals Ltd., Sunderland, England. 609,413, canc. Cl. 14.
EZ Products: *See*— Steckler, Nat P.
Eaton-Dikeman Co., The, Mount Holly Springs, Pa. 609,581–2, canc. Cl. 31.
Eberhard Faber Inc., Wilkes-Barre, Pa. 721,340, pub. 6–27–61. Cl. 37.
Edison, Thomas A., Inc., to McGraw-Edison Co., West Orange, N.J. 391,701, ren. 9–12–61. Cl. 6.
Electric Machinery Mfg. Co., Minneapolis, Minn. 721,256, pub. 4–25–61. Cl. 21.
Electriglas Corp., Bergenfield, N.J. 609,499, canc. Cl. 21.
Electro-Therm, Inc., Silver Spring, Md. 721,335, pub. 6–27–61. Cl. 34.
Elgin National Watch Co., Chicago and Elgin, Ill. 327,318, canc. Cl. 27.
Elgin National Watch Co., Elgin, Ill., from Bradley Time Corp., New York, N.Y. 721,311, pub. 6–27–61. Cl. 27.
Endsdown Co., Inc., New York, N.Y. 721,374, pub. 6–27–61. Cl. 40.
Engineering Sales Corp., Wellesley Hills, Mass. 721,275, pub. 6–27–61. Cl. 23.
Englander Co., Inc., The: *See*— Fort Pitt Bedding Co.
Esphyr Slobodkina-Urquhart, d.b.a. Art Development Co., Great Neck, N.Y. 721,423, pub. 6–27–61. Cl. 50.
Euromac, Inc., Palisades Park, N.J. 715,013, canc. Cl. 23.
Evelyn Hat Co.: *See*— Glasberg, Hyman.
Ever Sharp File Co., Taunton, to Simonds Saw and Steel Co., Fitchburg, Mass. 149,046, ren. 9–12–61. Cl. 23.
Ewing Mill Co.: *See*— Robertson Corp., The.
Excelsior Underwear, Inc., New York, N.Y. 721,361, pub. 4–4–61. Cl. 39.
Executive House Motor Hotels Corp., Cincinnati, Ohio. 718,701. Am. 7(d). Cl. 100.
Fant Milling Co., to Fant Milling Co., Sherman, Tex. 392,684, ren. 9–12–61. Cl. 46.
Fashions For Fun & Function, Verona, N.J. 609,657, canc. Cl. 40.
Favre-Leuba Watch & Chronometer Co. Inc., New York, N.Y. 721,315, pub. 6–27–61. Cl. 28.
Feature Ring Co., Inc., New York, N.Y. 721,313, pub. 6–27–61. Cl. 28.
Felix Terrier, Canton of Vaud, Switzerland. 609,516, canc. Cl. 22.
Fieldcrest Mills, Inc., Spray, N.C. 721,377–80, pub. 6–27–61. Cl. 42.
Fletcher, F. P., & Sons, Pasadena, Calif. 609,463, canc. Cl. 21.
Fli-Back Co., Inc., The: *See*— Gibson, James E., Jr.
Florida Ornamental Foliage Co., Fort Myers, Fla. 721,182, pub. 6–27–61. Cl. 1.
Foamicin Co., The: *See*— Block Drug Co., Inc.
Fort Pitt Bedding Co., Pittsburgh, Pa., to The Englander Co., Inc., Chicago, Ill. 390,296–7, ren. 9–12–61. Cl. 32.
Freezit Corp. of America, The, Dallas, Tex. 609,583, canc. Cl. 31.
Frontier Chemical Co.: *See*— Vulcan Materials Co.
Furniture Dynamics, Inc., Los Angeles, Calif. 721,330, pub. 6–27–61. Cl. 32.
Gee Mfg. Co., Inc., El Paso, Tex. 609,642–3, canc. Cl. 39.
Geigy Chemical Corp., Ardsley, N.Y. 721,205, pub. 6–27–61. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 721,309, pub. 6–27–61. Cl. 26.
General Cable Corp.: *See*— Phillips Insulated Wire Co.
General Foam Products, Los Angeles, Calif. 721,165, pub. 6–27–61. Cl. 1.
General Foods Corp.: *See*— Baker, Walter, & Co. Ltd.
General Metals Corp.: *See*— Village Blacksmith Co., The.
General Packaging Equipment Co., Houston, Tex. 721,291, pub. 6–27–61. Cl. 23.
General Tire & Rubber Co., The, Akron, Ohio. 721,177, pub. 6–27–61. Cl. 1.
Getz, William, Corp., The, Chicago, Ill. 721,387, pub. 6–27–61. Cl. 44.
Gibson, James E., Jr., to The Fli-Back Co., Inc., High Point, N.C. 609,507, canc. Cl. 22.
Gilbert, A. C., Co., The, New Haven, Conn. 609,469, canc. Cl. 21.
Gilleland, Reuben A., d.b.a. Atlas Ozone Mfg. Co., Peoria, Ill. 609,492, canc. Cl. 21.
Gladding, B. F., & Co., Inc., South Otselic, N.Y. 721,448. Cl. 22.
Glasberg, Hyman, d.b.a. Evelyn Hat Co., Boston, Mass. 609,641, canc. Cl. 39.
Glen Oaks Mfg. Co., New York, N.Y. 721,367, pub. 6–27–61. Cl. 39.
Gob Shops of America, Inc.: *See*— Sterling Stores Corp.
Goetze's Candy Co., Inc., Baltimore, Md. 721,406, pub. 6–27–61. Cl. 46.
Goldstein Millinery Co., Chicago, Ill. 609,636, canc. Cl. 39.
Goodman, A., & Sons, Inc., Long Island City, N.Y. 389,587–8, ren. 9–12–61. Cl. 46.
Goodrich, B. F., Co., The, Akron, Ohio. 147,774, ren. 9–21–61. Cl. 35.
Gould-National Batteries, Inc., St. Paul, Minn. 721,248, pub. 1–20–59. Cl. 21.
Grady & Neary Ink Co., Chicago, Ill. 721,214, pub. 6–27–61. Cl. 11.
Granulite Co., The: *See*— Doscher, Gerard H.
Graver Tank & Mfg. Co., Inc., East Chicago, Ind. 609,730, canc. Cl. 103.
Great Neck Saw Manufacturers, Inc., Mineola, N.Y. 721,284, pub. 6–27–61. Cl. 23.
Groove-Rite Tool Co.: *See*— Stevens, Guy L.
H. & M. Sportswear, Inc., New Bedford, Mass. 721,372, pub. 6–27–61. Cl. 39.
Harlan, O. A., & Co., to Sunsweet Growers Inc., San Jose, Calif. 148,068, ren. 9–12–61. Cl. 46.
Hercules Trouser Co., The, Columbus, Ohio. 721,370, pub. 6–27–61. Cl. 39.
Hesston Mfg. Co., Inc., Hesston, Kans. 721,285, pub. 6–27–61. Cl. 23.

Hester, James H., d.b.a. Hester Sportsman, Santa Monica, Calif. 609,456, canc. Cl. 19.
Hester Sportsman : *See*—
Hester, James H.
Hollingsworth & Vose Co., East Walpole, Mass. 721,342, pub. 6–27–61. Cl. 37.
Holman, A. J., Co., Philadelphia, Pa. 392,550, ren. 9–12–61. Cl. 38.
Holt, Howard R., d.b.a. Kim-Tam Enterprises, North Smithfield, R.I. 721,388, pub. 6–27–61. Cl. 44.
Hornstein Photo Sales, Inc., Chicago, Ill. 721,251, pub. 6–27–61. Cl. 21.
Howe Sound Co. : *See*—
Austenal Laboratories, Inc.
Hughes Tool Co., Houston, Tex. 721,294, pub. 6–27–61. Cl. 23.
Hydril Co., Los Angeles, Calif. 721,220–1, pub. 6–27–61. Cl. 13.
Ideal Industries, Inc., Sycamore, Ill. 721,276, pub. 6–27–61. Cl. 23.
Incentive Ideas, Inc., Dallas, Tex. 721,266, pub. 6–27–61. Cl. 22.
Industrial Soap Co., St. Louis, Mo. 609,378, canc. Cl. 6.
Instrument Specialties Co., Inc., West Paterson, N.J. 721,263, pub. 6–27–61. Cl. 21.
Intermedico Corp., Floral Park, N.Y. 609,429, canc. Cl. 18.
International Laboratories, Inc. : *See*—
Clements, Fred W.
International Products Corp., New York, N.Y. 721,430–1, pub. 6–27–61. Cl. 51.
International Silver Co. : *See*—
International Silver Co., The.
International Silver Co., The, to International Silver Co., Meriden, Conn. 389,861, ren. 9–12–61. Cl. 28.
Jewel Paint & Varnish Co. : *See*—
Wadsworth-Howland Co.
Johns-Manville Corp., New York, N.Y. 721,216, pub. 6–27–61. Cl. 12.
Johnson & Johnson, New Brunswick, N.J. 721,432, pub. 6–27–61. Cl. 52.
Jones, Wilson Jones Co., Chicago, Ill. 721,290, pub. 6–27–61. Cl. 23.
Jonkopings Och Vulcans Tandsticksfabriksaktiebolag, to Aktiebolaget Jonkoping-Vulcan, Jonkoping, Sweden. 388,369, ren. 9–12–61. Cl. 9.
KVP Sutherland Paper Co., Kalamazoo, Mich. 721,339, pub. 10–18–60. Cl. 37.
Kennametal, Inc., Latrobe, Pa. 721,279, pub. 6–27–61. Cl. 23.
Kidde Ultrasonic & Detection Alarms, Inc. : *See*—
Kidde, Walter, & Co., Inc.
Kidde, Walter, & Co., Inc., Belleville, from Kidde Ultrasonic & Detection Alarms, Inc., Clifton, N.J. 721,302, pub. 6–27–61. Cl. 26.
Kim-Tam Enterprises : *See*—
Holt, Howard R.
Kit-Kraft : *See*—
Buck, William H.
Klenzade Products, Inc., Beloit, Wis. 721,399, pub. 6–27–61. Cl. 46.
Klepper Co., New York, N.Y. 609,454, canc. Cl. 19.
Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. 721,416, pub. 6–6–61. Cl. 49.
Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. 721,457. Cl. 47.
Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei, Emmendingen, Germany. 721,460. Cl. 49.
Knapp-Sherrill Co., Donna, Tex. 721,415, pub. 6–27–61. Cl. 46.
Kraft Cheese Co., to National Dairy Products Corp., Chicago, Ill. 392,212, ren. 9–12–61. Cl. 46.
La Lanne Inc., Oakland, Calif. 721,232, pub. 6–27–61. Cl. 18.
Lamont, Creston L., d.b.a. Lamont's Hatchery, Eugene, Oreg. 609,344, ren. 9–12–61. Cl. 1.
Lamont's Hatchery : *See*—
Lamont, Creston L.
Lando Products, Inc., Sausalito, Calif. 609,404, canc. Cl. 12.
Langley Alloys Ltd., Langley, Slough, England. 721,223, pub. 4–11–61. Cl. 14.
La Salle Neckwear Co., Philadelphia, Pa. 721,369, pub. 6–27–61. Cl. 39.
La Vie Jewelry Corp., New York, N.Y. 721,318, pub. 6–27–61. Cl. 28.
Lewis, Stanley N., Gardena, Calif. 721,243, pub. 6–27–61. Cl. 19.
Liberty Mfg. Co., Red Springs, N.C. 609,394, canc. Cl. 10.
Lipoff, Harry, d.b.a. Lipoff's Wholesale Meats, Philadelphia, Pa. 609,679, canc. Cl. 46.
Lipoff's Wholesale Meats : *See*—
Lipoff, Harry.
Litestar, Inc., Long Island City, N.Y. 609,577, canc. Cl. 30.
Lloyd Brothers, Inc. : *See*—
Penick, S. B., & Co.
Lobco, Inc. : *See*—
Alberto-Culver Co.
Lockheed Aircraft Corp., Burbank, Calif. 721,265, pub. 6–27–61. Cl. 21.
Lodding Engineering Corp., Auburn, Mass. 721,280, pub. 6–27–61. Cl. 23.
London Leather Novelties, New York, N.Y. 609,385, canc. Cl. 8.
Lorillard, P., Co., New York, N.Y. 721,231, pub. 6–27–61. Cl. 17.
Lucente Enterprises, Inc., Youngstown, Ohio. 721,425, pub. 4–18–61. Cl. 51.
Lyman Gun Sight Corp., The, Middlefield, Conn. 721,211, pub. 6–27–61. Cl. 9.
M.F.A. Oil Co., Columbia, Mo. 721,204, pub. 6–20–61. Cl. 6.
M.J.B. Co., San Francisco, Calif. 721,397, pub. 6–27–61. Cl. 46.
M & R Dietetic Laboratories, Inc. : *See*—
Nucoa Butter Co.
MacGregor-Comarain, Paris (Seine), France. 721,447. Cl. 19.
MacVeagh, Franklin, & Co., Chicago, Ill., to Carnation Co., Los Angeles, Calif. 145,137, ren. 9–12–61. Cl. 46.
Macy, R. H., & Co., Inc. : *See*—
Bamberger, L., & Co.
Macy, R. H., & Co., Inc., New York, N.Y. 389,752, ren. 9–12–61. Cl. 39.
Manantiales Penafiel, S.A., Mexican Co. Estacion Garci-Crespo, Tehuacan, Puebla, Mexico. 721,389, pub. 6–27–61. Cl. 45.
Mann, Hank, Inc., Temple, Tex. 721,358, pub. 6–27–61. Cl. 39.
McBell Enterprises, Inc., Racine, Wis. 609,573, canc. Cl. 29.
McGraw-Edison Co. : *See*—
Edison, Thomas A., Inc.
McGraw-Edison Co., West Orange, N.J. 721,310, pub. 6–27–61. Cl. 26.
Mead Johnson & Co., Evansville, Ind. 721,407, pub. 6–27–61. Cl. 46.
Melville Shoe Corp. : *See*—
Miles Shoes, Inc.
Menendez, E., Miami, Fla. 721,352, pub. 6–27–61. Cl. 38.
Merck & Co., Inc. : *See*—
Sharp & Dohme, Inc.
Merck & Co., Inc., Rahway, N.J. 609,681, canc. Cl. 46.
Meredith Publishing Co., Des Moines, Iowa. 721,350, pub. 6–27–61. Cl. 38.
Meredith Publishing Co., Des Moines, Iowa. 721,355, pub. 6–27–61. Cl. 38.
Merritt, B., Inc., Chicago, Ill. 721,333, pub. 6–27–61. Cl. 34.
Metal Coating Corp., Chicago, Ill. 721,185, pub. 6–27–61. Cl. 2.
Micamold Radio Corp., Brooklyn, N.Y. 609,495, canc. Cl. 21.
Midland Products Co., Midland Park, N.J. 721,278, pub. 6–27–61. Cl. 23.
Miles Shoes, Inc., to Melville Shoe Corp., New York, N.Y. 392,180, ren. 9–12–61. Cl. 39.
Milsan Mills, Inc., Lebanon, Pa. 609,647, canc. Cl. 39.
Minneapolis-Moline Co., Hopkins, Minn. 721,295, pub. 6–27–61. Cl. 23.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 721,191, pub. 6–27–61. Cl. 4.
Minnesota Rubber Co., Minneapolis, from Minnesota Rubber Properties, Inc., d.b.a. Carlson Farms, St. Paul, Minn. 721,391–5, pub. 6–27–61. Cl. 46.
Minnesota Rubber Properties, Inc. : *See*—
Minnesota Rubber Co.
Mirus, Gilbert B., d.b.a. Carmac Co., Monrovia, Calif. 609,453, canc. Cl. 19.
Mission Garden Products Co. : *See*—
Wertz, Frank.
Mitten, Jane Wharton, d.b.a. Derm Laboratories, Newark, N.J. 721,426, pub. 6–27–61. Cl. 51.
Mobay Chemical Co., Pittsburgh, Pa. 721,194, pub. 6–27–61. Cl. 6.
Modern Globe, Inc., Pawtucket, R.I. 721,363, pub. 6–27–61. Cl. 39.
Monarch Aluminum Mfg. Co., Cleveland, Ohio. 721,224, pub. 6–27–61. Cl. 14.
Mohawk Brush Co., Albany, N.Y. 392,336, ren. 9–12–61. Cl. 29.
Mohawk Brush Co., Albany, N.Y. 721,320, pub. 6–27–61. Cl. 29.
Montgomery Ward & Co., Inc., Chicago, Ill. 721,334, pub. 6–27–61. Cl. 34.
Morris, Paul, New York, N.Y. 721,316, pub. 6–27–61. Cl. 28.
Motor Travel Services, Inc., Minneapolis, Minn. 721,446, pub. 5–23–61. Cl. B.
Motorola, Inc., Chicago, Ill. 721,258, pub. 4–11–61. Cl. 21.
Muscat Cooperative Growers : *See*—
Muscat Cooperative Winery Association.
Muscat Cooperative Winery Association, d.b.a. Muscat Cooperative Growers, Kingsburg, Calif. 609,680, canc. Cl. 46.
N.B.K. Co., St. Paul, Minn. 609,652, canc. Cl. 39.
Nalge Co., Inc., The : *See*—
Nalge Co., Inc.
Nalge Co., Inc. The Nalge Co., Inc., Rochester, N.Y. 699,617. Am. 7(d). Cl. 1.
Nalge Co., Inc. The Nalge Co., Inc., Rochester, N.Y. 701,346. Am. 7(d). Cl. 26.
Nalge Co., Inc. The Nalge Co., Inc., Rochester, N.Y. 710,565. Am. 7(d). Cl. 26.
Napoli Restaurant, Inc., Portland, Me. 721,390, pub. 6–27–61. Cl. 46.
National Cleaners Chemical Mfg. Co. : *See*—
National Detergents, Inc.
National Dairy Products Corp. : *See*—
Breyer Ice Cream Co.
Kraft Cheese Co.
National Detergents, Inc., d.b.a. National Cleaners Chemical Mfg. Co., Chicago, Ill. 721,433, pub. 6–27–61. Cl. 52.
National Foundation, The, New York, N.Y. 721,435–6, pub. 6–27–61. Cl. 100.
Navco, Inc., St. Louis, Mo. 721,252, pub. 6–27–61. Cl. 21.
Navco, Inc., St. Louis, Mo. 721,304, pub. 6–27–61. Cl. 26.
Nephi Processing Plant, Inc., Nephi, Utah. 609,685, canc. Cl. 46.
New Orleans Kitchens, Inc., LaFayette, La. 721,405, pub. 6–27–61. Cl. 46.
Nitragin Co., Inc., The, Milwaukee, Wis. 721,174, pub. 6–27–61. Cl. 1.
Norda Essential Oil & Chemical Co., Inc., New York, N.Y. 721,201, pub. 3–21–61. Cl. 6.
Northern Minnesota Bluegrass Growers Assn., Roseau, Minn. 721,163, pub. 6–27–61. Cl. 1.

Nucoa Butter Co., New York, N.Y., M & R Dietetic Laboratories, Inc., Columbus, Ohio. 145,987, ren. 9–12–61. Cl. 46.
Oberfell, George G., Bartlesville, Okla. 609,386, canc. Cl. 9.
Oller, Frank E., Cleveland, Ohio. 609,533, canc. Cl. 26.
Olive Heights Citrus Association, Olive, Calif. 392,251, ren. 9–12–61. Cl. 46.
Olsen, Fred., & Co., Oslo, Norway. 721,442, pub. 6–27–61. Cl. 105.
Olympic Radio & Television, Inc., Long Island City, N.Y. 609,462, canc. Cl. 21.
Omega Instrument Co.: *See*—
Rutishauser, Hans.
Oneida Ltd., Oneida, N.Y. 721,277, pub. 6–27–61. Cl. 23.
Orber Mfg. Co., Pawtucket, R.I. 609,572, canc. Cl. 28.
Osborne Co., The, Clifton, N.J. 609,728–9, canc. Cl. 101.
Pabst Brewing Co.: *See*—
Val Blatz Brewing Co.
Pacific Can Co., San Francisco, Calif. 609,736, canc. Cl. 2.
Pacific States Laboratories, Inc., San Francisco, Calif. 609,-438, canc. Cl. 18.
Packard-Bell Electronics Corp., Los Angeles, Calif. 721,249, pub. 6–27–61. Cl. 21.
Packard-Bell Electronics Corp., Los Angeles, Calif. 721,262, pub. 6–27–61. Cl. 21.
Papaya Food Products Co.: *See*—
Anderson, Warren R.
Parker Brothers, Inc., Portland, Me., and Salem, Mass. 325,672, canc. Cl. 22.
Parkersburg-Aetna Corp., Parkersburg, W. Va. 609,411, canc. Cl. 12.
Patent Searching Service: *See*—
Sernak, Cyril W.
Peerless Finishing Corp., Paterson, N.J. 609,733, canc. Cl. 106.
Penick, S. B., & Co., New York, N.Y., to Lloyd Brothers, Inc., Cincinnati, Ohio. 385,974, ren. 9–12–61. Cl. 18.
Pennsalt Chemicals Corp., Philadelphia, Pa. 721,195, pub. 6–27–61. Cl. 6.
Pennsalt Chemicals Corp., Philadelphia, Pa. 721,198, pub. 6–27–61. Cl. 6.
Perma-Cement Products of America, Inc., Pittsburgh, Pa. 721,203, pub. 6–27–61. Cl. 6.
Pharma-Craft Corp., The, now by change of name Pharms-Craft Corp., New York, N.Y. 609,451, canc. Cl. 18.
Pharms-Craft Corp.: *See*—
Pharma-Craft Corp., The.
Phillips Insulated Wire Co., Pawtucket, R.I., to General Cable Corp., New York, N.Y. 20,339, ren. 9–12–61. Cl. 21.
Phinny Brothers Co., to Quaker State Oil Refining Corp., Oil City, Pa. 145,778, ren. 9–12–61. Cl. 15.
Pierce & Stevens Chemical Corp., Buffalo, N.Y. 694,077, canc. Cl. 5.
Pioneer Industries, Inc., Darby, Pa. 721,424, pub. 4–18–61. Cl. 51.
Pitchford Scientific Instruments Corp., Pittsburgh, Pa. 721,300, pub. 6–21–61. Cl. 26.
Pittsburgh Plate Glass Co., from Columbia-Southern Chemical Corp., Pittsburgh, Pa. 721,208, pub. 6–27–61. Cl. 6.
Plastic Products Corp., Seattle, Wash. 721,219, pub. 6–27–61. Cl. 13.
Polaris Industries, Inc., Roseau, Minn. 721,246, pub. 6–27–61. Cl. 19.
Pooley Machine Co., Philadelphia, Pa. 609,587, canc. Cl. 31.
Poul Holst-Knudsen, Copenhagen, Denmark. 609,677–8, canc. Cl. 46.
Power Glo Products, Queens Village, N.Y. 609,703, canc. Cl. 50.
Precise Mfg. Co., Inc., Philadelphia, Pa. 609,496, canc. Cl. 21.
Precision Cosmet Co.: *See*—
Precision-Cosmet Co., Inc.
Precision-Cosmet Co., Inc., d.b.a. Precision Cosmet Co., Minneapolis, Minn. 721,305, pub. 6–27–61. Cl. 26.
Preuss, Roger, d.b.a. Preuss Studio, Minneapolis, Minn. 721,451. Cl. 38.
Preuss Studio: *See*—
Preuss, Roger.
Princess Coals, Inc.: *See*—
Princess Elkhorn Coal Co.
Princess Elkhorn Coal Co., Paintsville, Ky., to Princess Coals, Inc., Huntington, W. Va. 391,659, ren. 9–12–61. Cl. 1.
Procter & Gamble Co., The, Cincinnati, Ohio. 721,267, pub. 6–27–61. Cl. 22.
Prosperity Co., Inc., The, to Ward Industries Corp., Syracuse, N.Y. 388,840, ren. 9–12–61. Cl. 24.
Publisher's Vending Services Inc., Minneapolis, Minn. 721,286–9, pub. 6–27–61. Cl. 23.
Purity Mills, Inc., Dixon, Ill. 609,683, canc. Cl. 46.
Putman Publishing Co., Chicago, Ill. 721,353, pub. 6–27–61. Cl. 38.
Quaker State Oil Refining Corp.: *See*—
Phinny Brothers Co.
Quinn, Edwin S.: *See*—
Van Strum & Towne, Inc.
Radio Corp. of America, New York, N.Y. 721,250, pub. 10–13–59. Cl. 21.
Ranchers Cotton Oil Co.: *See*—
Ranchers Cotton Oil.
Ranchers Cotton Oil, d.b.a. Ranchers Cotton Oil Co., Fresno, Calif. 721,401, pub. 6–27–61. Cl. 46.
Ratner, Lee, d.b.a. Ratner Mfg. Co., Chicago, Ill. 609,713, canc. Cl. 51.
Ratner Mfg. Co.: *See*—
Ratner, Lee.
Rauland Corp., The, Chicago, Ill. 721,261, pub. 6–27–61. Cl. 21.
Ravin Recording Inc., Lynn, Mass. 721,337, pub. 5–23–61. Cl. 86.
Rayonier Inc., New York, N.Y. 721,180–1, pub. 6–27–61. Cl. 1.
Reif & Brody, Inc., Petaluma, Calif. 721,404, pub. 6–27–61. Cl. 46.
Reliance Mfg. Co., New York, N.Y. 609,650, canc. Cl. 39.
Remington Rand Inc., Buffalo, to Sperry Rand Corp., New York, N.Y. 389,269, ren. 9–12–61. Cl. 37.
Remington Rand Inc., Buffalo, to Sperry Rand Corp., New York, N.Y. 389,272, ren. 9–12–61. Cl. 37.
Resources Research, Inc., Washington, D.C. 721,463. Cl. 100.
Robertson Corp., The, d.b.a. Ewing Mill Co., Bedford, Ind. 721,396, pub. 6–27–61. Cl. 46.
Robinson, James S. Mary A. Robinson, Memphis, Tenn. 22,266. Am. 7(d). Cl. 18.
Robinson, Mary A.: *See*—
Robinson, James S.
Roddenbery, W. B., Co., Inc.: *See*—
Roddenbery, W. B., Co.
Roddenbery, W. B., Co., to W. B. Roddenbery Co., Inc., Cairo, Ga. 389,590, ren. 9–12–61. Cl. 46.
Roddenbery, W. B., Co., Inc., Cairo, Ga. 721,412, pub. 6–27–61. Cl. 46.
Ross, James D., Chicago, Ill. 609,511, canc. Cl. 22.
Rotron Mfg. Co., Inc., Woodstock, N.Y. 721,308, pub. 6–27–61. Cl. 26.
Roux Laboratories, Inc., New York, N.Y. 721,429, pub. 6–20–61. Cl. 51.
Royal McBee Corp.: *See*—
Royal Typewriter Co., Inc.
Royal Typewriter Co., Inc., to Royal McBee Corp., New York, N.Y. 392,265–6, ren. 9–12–61. Cl. 23.
Rubinstein, Helena, Inc.: *See*—
Stuart Products, Inc.
Rugcrofters, Inc., New York, N.Y. 609,544, canc. Cl. 26.
Rutishauser, Hans, d.b.a. Omega Instrument Co., Pasadena, Calif. 721,298, pub. 7–14–59. Cl. 26.
S.Port Packing Co., Altoona, Pa. 609,671, canc. Cl. 46.
Safe-T Pacific Baking Co., Redwood City, Calif. 721,419, pub. 6–7–60. Cl. 50.
Safety Sake Enterprises, Inc., Washington, D.C. 721,417–18, pub. 6–27–61. Cl. 50.
Saint Cornelius The Centurion Chapel of Valley Forge Military Academy: *See*—
Younghusband, James L.
Salada-Shirriff-Horsey, Inc., Woburn, Mass. 721,402, pub. 6–27–61. Cl. 46.
Sandoz Chemical Works, Inc., New York, N.Y. 609,424, canc. Cl. 18.
Saraber, Peter, Goslar/Harz, Germany. 609,547–8, canc. Cl. 26.
Savoy Hotel Ltd., The, London, England. 721,462. Cl. 49.
Schiefer, Ernest H., San Diego, Calif. 609,354, canc. Cl. 2.
Schultz, Dick: *See*—
Schultz, Richard M.
Schultz, Richard M., d.b.a. Dick Schultz, Welcome, Minn. 721,408, pub. 6–27–61. Cl. 46.
Scientific Design Co., Inc., New York, N.Y. 721,200, pub. 6–27–61. Cl. 6.
Scovill Mfg. Co.: *See*—
American Pin Co., The.
Screw Machine Products Co., Portland, Oreg. 609,701, canc. Cl. 50.
Seligmann, Otto, to American Collo Corp., New York, N.Y. 609,345, canc. Cl. 1.
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Sernak, Cyril W., d.b.a. Patent Searching Service, Washington, D.C. 721,440, pub. 6–27–61. Cl. 101.
Shapiro, Bernstein & Co., Inc., New York, N.Y. 150,563, ren. 9–12–61. Cl. 38.
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Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 392,649, ren. 9–12–61. Cl. 18.
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Sterling Stores Corp., now by change of name, Gob Shops of America, Inc., Pawtucket, R.I. 609,637, canc. Cl. 39.
Ster-o-lette Co., Brooklyn, N.Y. 721,386, pub. 6–27–61. Cl. 44.
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Stuart Co., The, to The Stuart Dental Products Co., Pasadena, Calif. 415,053, canc. Cl. 6.
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Stuart Co., The.
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Sund, Cora I., to The Beachcombers, Hollywood, Calif. 386,863, ren. 9–12–61. Cl. 49.
Sunshine Biscuits, Inc., d.b.a. Dickey Foods, Long Island City, N.Y. 721,413, pub. 6–27–61. Cl. 46.
Sunsweet Growers Inc.: *See*—
Harlan, O. A., & Co.
Super Market Publishing Co., Inc., New York, N.Y. 391,846, ren. 9–12–61. Cl. 38.
Superior Laboratories, Inc., Tyler, Tex. 721,434, pub. 6–27–61. Cl. 52.
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Val Blatz Brewing Co., to Pabst Brewing Co., Milwaukee, Wis. 146,388, ren. 9–12–61. Cl. 48.
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Vanadium-Alloys Steel Co., Latrobe, Pa. 721,225–6, pub. 6–27–61. Cl. 14.
VEB Falz- und Heftmaschinenwerk Leipzig: *See*—
VEB Leipziger Buchbindereimaschinenwerk.
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Veith, Fred A., Cincinnati, Ohio. 721,212, pub. 6–27–61. Cl. 10.
Victoria Silk Press, Inc., St. Louis, Mo. 609,503, canc. Cl. 21.
Village Blacksmith Co., The. General Metals Corp., Watertown, Wis. 615,702. Am. 7(d). Cl. 23.
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Walker Studio, Inc., The, Yonkers, N.Y. 721,437, pub. 6–27–61. Cl. 100.
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West Virginia Pulp and Paper Co., New York, N.Y. 721,207, pub. 6–27–61. Cl. 6.
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Whitman Publishing Co., Racine, Wis. 721,341, pub. 6–27–61. Cl. 37.
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Wiss, J., & Sons Co., Newark, N.J. 721,281–2, pub. 6–27–61. Cl. 23.
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Yale and Towne Mfg. Co., The, New York, N.Y. 721,297, pub. 6–27–61. Cl. 25.
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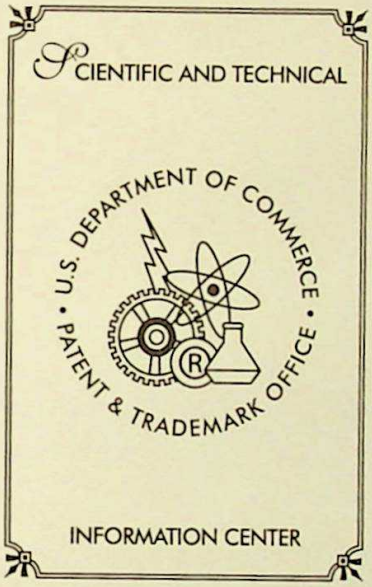

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